Monthly Oversight Report 21
ACS NPL Site
Griffith, Indiana
August 31, 2002 - September 27, 2002

BLACK & VEATCH

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Black & Veatch Special Projects Corp.

USEPA/RAC VII
American Chemical Services RAO (057-ROBF-05J7)

BVSPC Project 46526
BVSPC File C.3
October 15, 2002

Mr. Kevin Adler
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject: Monthly Oversight Summary Report
No. 21 for September 2002

Dear Mr. Adler:

Enclosed is the Monthly Oversight Summary Report No. 21 for September 2002 for the American Chemical Services Superfund Site in Griffith, Indiana.

If you have any questions, please call (312-683-7856) or email (campbelllm@bv.com).

Sincerely,

BLACK & VEATCH Special Projects Corp.

Larry M. Campbell, P.E.
Site Manager

Enclosure

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Monthly Oversight Summary Report No. 21
ACS Superfund Site WA57, 46526.238

Reporting Period: Month of September (August 31, 2002 - September 27, 2002)
BVSPC O/S Dates: September 4, 5, 10, 12, 17, 19, 24, and 26, 2002

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	9	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Austgen	2	Electrical Contractor
Simalabs	1	Compliance Sampling and Laboratory
Environmental Contractors of Illinois	5	OFCA Engineered Cover Contractor
Mid-America Lining Company	14	OFCA Engineered Cover Lining Installation Contractor
Duneland Group	2	OFCA Engineered Cover Surveyor
K&S Testing	2	OFCA Engineered Cover Geotechnical Testing
Ryan Construction	1	General Contractor
Environmental Contractors of Illinois	5	OFCA Engineered Cover Contractor
DG Surveyors	2	Surveying Subcontractor
Krupp	1	Crane Contractor
Security Fence	2	Fencing Contractor
Hard Hat Services, Inc.	5	ONCA SBPA Interim Cover Contractor
Area Survey	2	ONCA SBPA Interim Cover Surveyor
Vidimus	2	OFCA ISVE Thermal Oxidizer Repair Contractor

Construction Activities

Major Activities:

- Mid-America Lining Company installed the flexible membrane liner on the Off-Site Containment Area engineered cover.
- Environmental Contractors of Illinois excavated the anchor trench and placed the root zone material for the Off-Site Containment Area engineered cover.
- Environmental Contractors of Illinois damaged Off-Site Containment Area in-situ soil vapor extraction well SVE-38.
- Security Fence completed installing temporary fencing to delineate the work zone for the On-Site Containment Area.
- Hard Hat Services, Inc. graded the subgrade and began installing conveyance piping for the On-Site Containment Area interim cover and in-situ soil vapor extraction system.
- Montgomery Watson Harza contracted with Boart-Longyear for the installation of the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction wells.
- Vidimus repaired the damaged Hastelloy ducting for the Off-Site Containment Area in-situ soil vapor extraction system thermal oxidizer and scrubber.
- Montgomery Watson Harza resumed operating the Off-Site Containment Area in-situ soil vapor extraction system.
- Montgomery Watson Harza performed the semi-annual groundwater and annual residential well sampling events.
- Montgomery Watson Harza held weekly construction coordination meetings on September 5, 12, 19, and 26, 2002.

Activities Performed:

Mid-America Lining Company (MAL) mobilized to the site on September 3, 2002, and began filling sandbags in preparation for installing the Off-Site Containment Area (OFCA) flexible membrane liner (FML). Black & Veatch Special Projects Corp. (BVSPC) attended the Health and Safety Kick-off Meeting for MAL on September 4, 2002. The majority of MAL's crew was 40-hour trained. MAL reported that it cut test speciments for both non-destructive field and destructive laboratory testing of the seams. All of the seam tests passed and their locations were surveyed by Duneland Group. MAL constructed and extrusion welded FML boots around each of the penetrations in the liner such as the in-situ soil vapor extraction (ISVE) wells. MAL completed installing the FML and demobilized from the site on September 11, 2002.

BVSPC observed Environmental Contractors of Illinois (ECI) excavate the anchor trench for the OFCA engineered cover FML. BVSPC observed that the anchor trench around the west and south portions of the OFCA was crossing over the barrier wall liner in several locations. The anchor trench was not located completely outside of the barrier wall as detailed in the Final Remedial Design Report and bid documents. MWH determined that the anchor trench for the FML was outside of the barrier wall based on visual confirmation and global positioning satellite (GPS) data. BVSPC also observed that a portion of the HDPE from the barrier wall was caught by the excavator bucket during trenching activities. BVSPC expressed to MWH concern that the integrity of the barrier wall may have been compromised. MWH reported that

it examined these areas and determined that the damage was minimal and did not extend below what was visible in the trench. BVSPC also questioned MWH regarding how the minimum cover thickness of 18 inches for the FML and drainage in the anchor trench will be maintained for freeze-thaw conditions. MWH reported that the edge of the FML abutting the existing cover should drain in the transverse direction so that the freeze-thaw impacts should be minimal. MWH also reported that it selected the FML liner because it was significantly more flexible than an HDPE liner.

During trenching activities, BVPSC also observed that garbage and debris were encountered along the central western portion of the trench. ECI staged the debris removed from the anchor trench and placed it in the On-Site Containment Area (ONCA). MWH reported that the debris that was observed on the western edge of the anchor trench was related to the Town of Griffith Landfill. MWH reported that the interim cover of 12-inches of clay was placed on the areas inside the barrier wall, not necessarily over the debris from the landfill located outside of the barrier wall.

BVPSC observed that the designed thickness of the root zone material and top soil layer of the cover will exceed the height of the concrete slab for the OFCA ISVE system blower shed. MWH reported that the fill material would be graded to meet the elevation of the concrete slab, but will not necessarily meet the minimum requirements for the cover construction.

BVSPC observed ECI construct the test fill with the FML and fill materials on September 4, 2002. ECI met compaction and moisture for the root zone material placed directly on top of the FML. Also, observation of the exposed FML indicated that the construction equipment and procedure had not damaged the FML.

While excavating the anchor trench on the eastern portion of the OFCA on September 5, 2002, ECI damaged the buried electrical conduit that runs from Colfax Ave. to the blower shed. A spark was generated; however, no injuries occurred. Austgen was on-site later that morning and repaired the electrical line.

ECI completed placing the root zone material from both the on-site stockpile and off-site sources. K&S Testing performed compaction and moisture testing on the root zone material. ECI was able to meet the 90% compaction requirement for the root zone material from the on-site stockpile; however, ECI did not meet the moisture requirements. MWH lessened the requirements for the on-site sand material to require that ECI placed the material moist and met the compaction. ECI was unable to meet the 90% compaction and moisture requirements for the root zone material from the off-site sources. MWH lessened the requirements for the off-site root zone material to 80% compaction and -1% to +2% of optimum moisture content. ECI began placing topsoil on the southern portion of the OFCA engineered cover where the root zone material met MWH's modified compaction and moisture requirements.

MWH reported that ECI damaged the flexible membrane liner (FML) boot and punctured OFCA ISVE well SVE-38 with the corner of the blade from the bulldozer. MWH and ECI inspected the damage to the well and observed that the puncture damage was limited to the 5-foot long stainless steel riser pipe. ECI

cut the FML boot to expose clay cover. MWH reported that it would investigate the damage to the saddle next week and ECI would replace the damaged riser.

Security Fence completed installing the temporary fencing around the ONCA Still Bottoms Pond Area (SBPA) cover work area. Hard Hat Services, Inc. (HHSI) mobilized to the site on Tuesday, September 10, 2002, to install the ONCA SBPA interim cover. MWH held a Health and Safety Kick-off Meeting for HHSI personnel on September 10, 2002. HHSI operators and laborers decided to volunarily wear half-face respirators while trenching and working in the trench. HHSI is conducting air monitoring within the work zone, and the equipment operators are voluntarily wearing half mask respirators. HHSI personnel will upgrade to full-face respirators should the PID readings exceed 10 ppm. MWH reported that it was conducting periodic perimeter air monitoring.

HHSI excavated the cut along the perimeter of the ONCA SBPA interim cover and prepared the subgrade. HHSI began excavating the trench for the On-Site Containment Area (ONCA) Still Bottoms Pond Area SBPA ISVE system. During trenching activities, HHSI damaged an 18-inch-diameter catch basin line. HHSI removed the damaged portion of the line and installed a patch on September 24, 2002. HHSI installed the piping for trench runs A and B. HHSI also pressured tested the 2-inch-diameter and 3-inch-diameter HDPE piping. HHSI was required to pressurize the piping to 90 psi for 15 minutes without losing more than 5 psi. HHSI successfully met the requirements. Area Survey surveyed the locations of the installed piping.

MWH reported that it contracted with Boart-Longyear (BLA) to install the ONCA SBPA ISVE wells. MWH also reported that BLA is scheduled to mobilize to the site on October 14, 2002. MWH reported that it will conduct a Health and Safety Kick-off Meeting for BLA once it has mobilized to the site. Coordination with HHSI activities will be emphasized in this meeting.

Vidimus welded the repaired duct work connecting the OFCA ISVE system thermal oxidizer and scrubber. MWH installed temporary plastic packing in the scrubber in order to operate the unit. MWH resumed operating the repaired OFCA ISVE system on Wednesday, September 25, 2002. MWH reported that it was drawing vapor from 19 wells. MWH also reported that the dilution air valve in the OFCA blower shed was open at 75% in order to minimize exceeding the temperature limits of the thermal oxidizer and temporary plastic scrubber packing. BVSPC observed that the heat shielding was not replaced on the duct work between the thermal oxidizer and scrubber. BVSPC also observed that MWH did not post signs warning of the elevated temperatures of the duct work. MWH reported that the temperature of the duct after the primary quench bar was approximately 140°F, and was not elevated enough to warrant additional precautions. When asked by BVSPC about the duct work upstream of the primary quench bar that has historically been approximately 600°F, MWH reported that the duct work was out of reach of personnel and did not necessitate any signs.

MWH conducted the semi-annual groundwater and annual residential well sampling events during the week of September 9, 2002. MWH collected water levels on September 9, 2002. MWH reported that the water levels are approximately 1 foot lower than those observed during the spring sampling event. MWH sampled 28 monitoring wells, 2 ORC piezometers, and 3 of the 5 residential wells. MWH completed all

of the sampling except for two residential wells on September 13, 2002. MWH reported that there was a shipping error in the groundwater samples collected on September 13, 2002; the samples shipped on September 13, 2002, arrived at the laboratory late and had expired. MWH resampled all of the residential wells on September 17, 2002, and resampled the monitoring wells and ORC piezometers on September 23, 2002. MWH reported that it was unable to sample the well located at 1007 Reder Road (PW-A) because electricity was not restored to the house. MWH reported that it sampled the well at 1043 Reder Road (PW-T) instead.

MWH conducted maintenance activities for the groundwater treatment plant (GWTP) during the week of September 12, 2002. MWH resumed operating the GWTP at 45 gpm until September 25, 2002, when ACS personnel damaged the 2-inch-diameter conveyance piping from the ONCA extraction wells to the GWTP. MWH shut down the ONCA extraction wells in order for ACS to repair the line. The GWTP was operating at 15 gpm while the line was being repaired. ACS completed repairs to the line on September 26, 2002, and MWH resumed pumping from the ONCA extraction wells.

Attached are BVSPC weekly reports No. 79 through 82, correspondence, log book notes, and photographs of the daily activities. BVSPC's crew conducted oversight of the major field activities on September 4, 5, 10, 12, 17, 19, 24, and 26, 2002. BVSPC's crew attended four weekly construction coordination meetings at the site on September 5, 12, 19, and 26, 2002.

Topics of Concern:

- The anchor trench for the OFCA FML appears to be crossing inside the barrier wall.
- BVSPC observed shallow debris buried along the west side of the OFCA, uncovered during anchor trench excavation activities.
- BVSPC observed several portions of the barrier wall HDPE were compromised during anchor trench excavation activities.
- BVSPC expressed concern regarding the freezing and thawing conditions that the engineered cover may experience and the potential damage to liner integrity.
- BVSPC expressed concern over the drainage of the anchor trench based on its current construction.
- The OFCA extraction well electrical panels may not be appropriately grounded.
- The residential well located at 1007 Reder Road could not be sampled during the annual residential well sampling event in October 2001 because the pump was not operating. This well is part of the long term monitoring program.
- MWH did not replace the heat shielding on the ducting connecting the OFCA ISVE thermal oxidizer to the scrubber system, nor did it place any warning placards.

Concern Resolution:

- MWH reported the anchor trench for the OFCA FML was installed outside of the barrier wall.
- MWH reported that the observed debris was from the Town of Griffith landfill and that the OFCA cover inside the barrier wall was constructed with a 12-inch-thick layer of clay.

- MWH investigated the damage to the barrier wall HDPE and determined that the damage to the liner was limited to the areas observed and did not compromise the integrity of wall.
- MWH reported that in selecting a FML, damage to the liner's integrity related to freeze-thaw conditions was minimized.
- MWH reported that the anchor trench will drain in the transverse direction to minimize any impacts from freeze-thaw.
- Austgen inspected the grounding for the extraction wells and determined that it was compliant with code.
- MWH reported that it would sample the residential well located at 1043 Reder Road.
- MWH reported that it measured the temperature of the ducting after the primary quench bar and that the exterior of the ducting was 140°F and did not require labeling. MWH also stated that the ducting upstream of the quench bar was out of reach for personnel and it did not believe that labeling was necessary.

Upcoming Activities:

- ECI to begin installing the topsoil and seed the OFCA engineered cover.
- HHSI to continue trenching and installing the SBPA ISVE system piping.
- MWH to continue operating the OFCA ISVE system.
- BLA to install the ONCA SBPA ISVE system wells.
- Ryan Construction to install heat transfer plates in tank T-2.

Signature: Leigh Peters Date: October 5, 2002

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Weekly Oversight Summary Report No. 79
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of September 2, 2002
BVSPC O/S Dates: September 4 (Mr. Gailey) and 5 (Mr. Campbell), 2002

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	8	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Environmental Contractors of Illinois	5	OFCA Engineered Cover Contractor
Mid-America Lining Company	14	OFCA Engineered Cover Lining Installation Contractor
Krupp	1	Crane Contractor
Austgen	2	Electrical Contractor
Security Fence	2	Fencing Contractor
Simalabs	1	Sampling and Laboratory Contractor

Construction Activities

Major Activities:

- Mid-America Lining Company began installing the flexible membrane liner on the Off-Site Containment Area engineered cover.
- Environmental Contractors of Illinois excavated the anchor trench for the flexible membrane liner and constructed the test fill.
- Security Fence completed installing the temporary fencing to delineate the work zone for the On-Site Containment Area Still Bottoms Pond Area interim cover.
- Montgomery Watson Harza contracted with Hard Hat Services, Inc. to install the On-Site Containment Area Still Bottoms Pond Area interim cover.
- Montgomery Watson Harza held the weekly construction coordination meeting.

Activities Performed:

Mid-America Lining Company (MAL) mobilized to the site on September 3, 2002, and began filling sandbags in preparation for installing the Off-Site Containment Area (OFCA) flexible membrane liner (FML). Black & Veatch Special Projects Corp. (BVSPC) attended the Health and Safety Kick-off

Meeting for MAL on September 4, 2002. The majority of MAL's crew is 40-hour trained. Montgomery Watson Harza (MWH) reported that the individuals that are not 40-hour trained will not be permitted to work in the anchor trench areas when photoionization detector (PID) air monitoring readings are elevated. BVSPC observed MAL begin installing and seaming the FML and conduct pressure testing on the welded seams. BVSPC also observed MAL begin installing the FML and boots around the ISVE wells. MAL reported that it extrusion welded around the boots to the ISVE wells in the morning when the FML was taut.

BVSPC observed Environmental Contractors of Illinois (ECI) excavate the anchor trench for the OFCA engineered cover FML. BVSPC observed that the anchor trench around the west and south portions of the OFCA was crossing over the barrier wall liner in several locations. The anchor trench was not located completely outside of the barrier wall liner as detailed in the Final Remedial Design Report and bid documents. MWH discussed the location of the anchor trench with ECI and will investigate the alignment of the anchor trench. BVSPC observed that a portion of the HDPE from the barrier wall was caught by the excavator bucket during trenching activities. BVSPC expressed to MWH concern that the integrity of the barrier wall in this location may have been compromised. BVSPC also questioned MWH regarding how the minimum cover thickness of 18 inches for the FML and drainage in the anchor trench will be maintained for freeze-thaw conditions.

During trenching activities, BVPSC also observed that garbage and debris were encountered along the central western portion of the trench. ECI staged the debris removed from the anchor trench on plastic for future disposal. MWH reported that it would investigate the debris area and determine why the material was not covered with 12-inches of clay.

BVPSC observed that the designed thickness of the root zone material and top soil layer of the cover will exceed the height of the concrete slab for the OFCA in-situ soil vapor extraction (ISVE) system blower shed. MWH reported that the fill material would be graded to meet the elevation of the concrete slab, but will not necessarily meet the minimum requirements for the cover construction.

BVSPC observed ECI construct the test fill with the FML and fill materials on September 4, 2002. ECI met compaction and moisture requirements for the root zone material placed directly on top of the FML ECI then removed the root zone material from the FML. MWH inspected the FML for damage from the construction process and found none. ECI was authorized to continue with the placement of root zone material using the same equipment and process..

While excavating the anchor trench on the eastern portion of the OFCA on September 5, 2002, ECI damaged the buried electrical conduit that runs from Colfax Ave. to the blower shed. A spark was generated; however, no injuries occurred. Austgen was on-site later that morning and repaired the electrical line.

Security Fence completed installing the temporary fencing around the On-Site Containment Area (ONCA) SBPA cover work area. MWH contracted with Hard Hat Services, Inc. (HHSI) for the ONCA SBPA interim cover.

BVSPC inquired whether the appropriate grounding protection had been installed at the OFCA extraction well control panels. MWH reported that it would have the panels inspected for compliance.

MWH reported that the GWTP was operating at 40 gpm. MWH reported that it cleaned out two of the process pumps during routine maintenance activities. MWH reported that the OFCA ISVE system thermal oxidizer and scrubber were shut down and that the recirculation pump is being repaired. MWH continues to evaluate packing material for the scrubber column and is having the duct work connecting the thermal oxidizer and scrubber repaired.

MWH held the weekly construction coordination meeting on September 5, 2002.

Topics of Concern:

- The anchor trench for the OFCA FML appears to be crossing over the barrier wall liner in several locations.
- BVSPC observed that portions of the barrier wall HDPE may have been compromised during anchor trench excavation activities.
- BVSPC expressed concern regarding the freezing and thawing conditions that the engineered cover may experience and the potential damage to FML integrity.
- BVSPC expressed concern over the drainage of the anchor trench based on its current construction.
- BVSPC observed shallow buried debris along the west side of the OFCA, uncovered during anchor trench excavation activities.
- The OFCA extraction well electrical panels may not be appropriately grounded.
- The residential well located at 1007 Reder Road could not be sampled during the annual residential well sampling event in October 2001 because the pump was not operating. This well is part of the long term monitoring program.

Concern Resolution:

- MWH reported that it will address the aforementioned concerns by the next weekly construction meeting scheduled for September 12, 2002.
- MWH's letter *Proposed Residential Well Sampling Event, American Chemical Service NPL Site, Griffith, Indiana*, dated August 12, 2002, proposes that MWH attempt to sample the well located at 1007 Reder Road. Should the well remain out of service at 1007 Reder Road, MWH has proposed to sample well PW-T, located at 1043 Reder Road.

Upcoming Activities:

- ECI and MAL to continue installing the FML for the OFCA engineered cover.
- HHSI to mobilize to the site for the ONCA SBPA interim cover.

- MWH to hold a Health and Safety Kick-off Meeting for HHSI on September 10, 2002.
- Ryan Construction to install heat transfer plates in tank T-2.
- MWH to conduct the annual residential well and semi-annual groundwater sampling events during the week of September 12, 2002.

Signature: Leigh Peters Date: September 23, 2002

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WEEKLY CONSTRUCTION MEETING AGENDA
FOR SEPTEMBER 5, 2002 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA

MEETING DATE: Thursday, September 5, 2002

MEETING TIME: 10:00 am

MEETING LOCATION: ACS Site – Site Trailer

TOPICS:

Health and Safety Summary (Lee or Tom)

GWTP Status (Lee)

- Current flow rate
- Bio Tank heating system.
- Insulation

Off-Site ISVE System (Tom)

- Inspections completed
- Repairs of unit.

Off-Site Final Cover (Todd/ECI/MAL)

- Liner Installation
- Schedule for next two weeks.
- Summary

On-Site Interim Cover (Todd/Rob)

- Construction Activities – summary/estimated start date
- Fence installation
- Hard Hat Services expected to complete the work
- Target start date is 9/9/02.

Looking Ahead

Week of...	Task
September 9	• GWTP system operation • Off-Site liner placement • Hard Hat Services mobilize • Groundwater Sampling/Private well sampling Mob Mon Start Tue
September 16	• GWTP system operation • Off-Site liner placement

• Continue ONCA

Next Weekly Construction Meeting

- Thursday, September 5, 2002

SIGN IN SHEET
WEEKLY CONSTRUCTION METING
SEPTEMBER 5, 2002

Name	Company	Fax Number
Travis Klingforth	MWH	
Todd Lewis	"	(Via phone)
Pete Vagt	"	(")
Chris Daly	"	(")
Jon Pohl	"	(")
Chad Gailey	B&V	(Via phone)
Kevin Adler	B&V	(")
ROB ADAMS	MWH	630-836-8959
RANDY PRICE	ECI	815.636.4304
Steve Palmer	ECI	" same "
Larry Campbell	BVSPC	312-346-4781
LEE OROSZ	MWH	
TOM TIMES	MWH	

WEEKLY CONSTRUCTION MEETING MINUTES FOR SEPTEMBER 5, 2002 MEETING AMERICAN CHEMICAL SERVICE, NPL SITE GRIFFITH, INDIANA

MEETING DATE: September 5, 2002

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES:
Todd Lewis – MWH (via phone)
Travis Klingforth – MWH
Tom Tinics – MWH
Peter Vagt – MWH (via phone)
Rob Adams – MWH
Jon Pohl – MWH (via phone)
Lee Orosz – MWH
Chris Daly – MWH (via phone)
Kevin Adler – U.S. EPA (via phone)
Larry Campbell – BVSPC
Chad Gailey – BVSPC (via phone)
Randy Price – ECI
Steve Palmer – ECI

TOPICS:

Health and Safety Summary

A "near-miss" accident occurred on the morning of September 5 when an Environmental Contractors of Illinois (ECI) trenching machine grazed a direct-buried electrical cable running between the Off-Site Area blower shed and power pole located on Colfax Ave. The circuit breakers tripped, as designed, shutting off the power to the electrical line. The underground had been marked with stakes prior to excavation. No one was injured. ECI will repair the line and Augsten Electric and NIPSCO will confirm the repair is complete. MWH will follow up with a written report of the incident in accordance with MWH corporate policy.

Lee Orosz, the MWH Site Health and Safety officer, led a health and safety kickoff meeting for ECI and Mid-America Lining Company (MAL) foremen on September 4. The foremen then relayed the information to their crews. The majority of MAL's crew is OSHA 40-hour trained. Only 40-hour trained personnel will work in areas in or around the perimeter anchor trenches if air monitoring identifies the presence of volatiles in the trenches, and only when the personnel are wearing proper personal protective equipment (PPE).

In an effort to take a more pro-active role in health and safety, MWH will be adding a "health and safety" section to the "Look Ahead" portion of the weekly meeting to discuss anticipated health and safety issues for upcoming tasks.

Groundwater Treatment Plant (GWTP) Status

Total flow through the GWTP is approximately 40 gallons per minute (gpm). MWH is cleaning out two of the process pumps and will increase the flow rate to 50 gpm by the end of the week.

Preparations for the activated sludge plant heat exchanger system continue. The heat exchanger is scheduled to arrive at the site in five to six weeks.

Momper Insulation began insulating the activated sludge plant and aeration tank on August 26. The insulation was completed on September 3, 2002, and Momper has cleaned up and demobilized from the Site.

In-Situ Vapor Extraction (ISVE) System – Off-Site Area

The ISVE system remains shut down for maintenance and repairs. The thermal oxidizer scrubber unit was dismantled during the week of August 19 in response to symptoms of possible corrosion. The unit has been cleaned and several components are being repaired. MWH is evaluating various options for metal packing material inside the unit. In the interim, MWH anticipates using a chemical-resistant plastic packing material to operate the system. The ductwork is being fabricated and Ryan Construction is scheduled to rebuild the unit during the week of September 9.

Off-Site Area Final Engineered Cover

MAL, the subcontractor selected by ECI to install the flexible membrane liner (FML) material in the Off-Site Area, mobilized on September 4. MAL began installing liner on September 5 and anticipates completing liner installation during the week of September 9. ECI has dug about 75 percent of the perimeter anchor trench for the liner material.

ECI constructed, tested, and analyzed a test pad on September 4 prior to beginning liner installation. MWH has confirmed the construction techniques and loading did not damage the FML portion of the test pad. Duneland Surveyors are scheduled to begin surveying the liner seams, test locations, and repair locations on September 6. ECI will work on Saturday, September 7 under MWH supervision.

Black & Veatch (BVSPC) asked various questions during the weekly construction meeting about the Final Engineered Cover installation. BVSPC wanted confirmation that the section of debris encountered during trenching along the west portion of the Site was located outside of the barrier line because the clay cover over the debris was less than 12 inches thick. BVSPC requested that MWH further investigate the anchor trench alignment with respect to the barrier wall along the south and west portions of the Site to insure that the anchor trench is installed appropriately. BVSPC requested that MWH examine the visible portions of the barrier wall uncovered during the anchor trenching process to insure that the integrity of the wall was not compromised during the trenching

activities. BVSPC requested that MWH re-evaluate the freezing and thawing conditions that the final engineered cover may experience to insure the liner integrity is not compromised. BVSPC requested that MWH revise and clarify the installation detail #1 for the anchor trench to insure proper drainage. MWH will review these issues and respond as appropriate.

On-Site Area Interim Engineered Cover

Hard Hat Services have been recommended by MWH to install the On-Site Area Interim Engineered Cover. MWH is reviewing Hard Hat's submittals. Work is scheduled to begin the week of September 9, 2002.

Security Fencing began installing temporary fencing around the work area inside the ACS facility on August 29. They will be completed with the task by September 6.

On-Site Area ISVE System

Bids have also been received for the installation of an additional thermal oxidizer unit for the On-Site Area ISVE system. MWH is reviewing the bids that have been received.

MWH will reactivate the contract with Boart Longyear to install the ISVE wells in the On-Site Area. A final scope document will be prepared to finalize the work activities and submitted to the U.S. EPA for information purposes.

Groundwater Monitoring

MWH will be conducting the September 2002 groundwater monitoring event during the week of September 9. The annual residential well sampling is scheduled for the same week.

Looking Ahead

Week of September 9 , 2002	• Mid-America completes installation of liner in Off-Site Area • Thermal Oxidizer/Scrubber system repair • Hard Hat mobilizes for installation of On-Site Area Interim Cover • Groundwater Monitoring • Private Well Sampling
Week of September 16, 2002	• Hard Hat continues installation of On-Site Area Interim Cover
Anticipated Health and Safety Items to Watch for	• Off-Site Final Engineered Cover • Underground utilities • Communication between MAL and ECI • On-Site Interim Engineered Cover • Health and Safety Kickoff Meeting Tuesday, September 10 • Dust control • Fencing, communication with ACS facility • Utility locate

Next Weekly Construction Meeting

- Thursday, September 12, 2002

TMK/PJV/TAL/RAA
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Weekly Oversight Summary Report No. 80
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of September 9, 2002
BVSPC O/S Dates: September 10 (Mr. Gailey) and 12 (Mr. Campbell), 2002

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	9	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Environmental Contractors of Illinois	4	OFCA Engineered Cover Contractor
Mid-America Lining Company	14	OFCA Engineered Cover Lining Installation Contractor
Austgen	2	Electrical Contractor
Duneland Group	2	OFCA Engineered Cover Surveyor
K&S Testing	2	OFCA Engineered Cover Geotechnical Testing
Hard Hat Services, Inc.	5	OFCA SBPA Interim Cover Contractor
Vidimus	2	OFCA ISVE Thermal Oxidizer Repair Contractor
Simalabs	1	Sampling and Laboratory Contractor

Construction Activities

Major Activities:

- Mid-America Lining Company completed installing the flexible membrane liner for the Off-Site Containment Area engineered cover and demobilized from the site.
- Environmental Contractors of Illinois began placing the root zone material over the flexible membrane liner on the Off-Site Containment Area engineered cover.
- Hard Hat Services, Inc. mobilized to the site and began grading the subgrade for the On-Site Containment Area Still Bottoms Pond Area interim cover.
- Montgomery Watson Harza performed the semi-annual groundwater and annual residential well sampling events.
- Vidimus repaired the ducting connecting the Off-Site Containment Area in-situ soil vapor extraction system thermal oxidizer and the scrubber.
- Montgomery Watson Harza held the weekly construction coordination meeting.

Activities Performed:

Mid-America Lining Company (MAL) completed installing the flexible membrane liner (FML) for the Off-Site Containment Area (OFCA) engineered cover. MAL reported that it cut test specimens for both non-destructive field and destructive laboratory testing of the seams. Montgomery Watson Harza (MWH) reported that all of the seam tests passed and their locations were surveyed by Duneland Group. MAL demobilized from the site on September 11, 2002.

Environmental Contractors of Illinois (ECI) continued to place the root zone material from the on-site stockpile over the liner. The stockpile consisted of the sand material excavated during the wetland pond excavation in the fall of 2001 that had been stockpiled in the OFCA. K&S Testing performed compaction and moisture testing on the root zone material. ECI met the 90% compaction requirement for the root zone material; however, ECI did not meet the moisture requirements. ECI began importing root zone material from an off-site source on Friday, September 13, 2002. ECI reported that it would have a flagman at the entrance to the OFCA on Colfax to control truck traffic.

Black & Veatch Special Projects Corp. (BVSPC) observed debris in the FML anchor trenches on the OFCA. MWH reported that the debris will be removed prior to backfilling the trench with clay.

MWH responded to several of BVSPC's concerns discussed during the weekly construction meeting held on September 5, 2002. MWH determined that the anchor trench for the FML was outside of the barrier wall based on visual confirmation and global positioning satellite (GPS) data. MWH also reported that it examined the areas of the barrier wall that was damaged during trenching activities and determined that the damage was minimal and did not extend deeper than what was visible. MWH reported that the edge of the FML abutting the existing cover should drain in the transverse direction so that the freeze-thaw impacts should be minimized. In addition, MWH reported that it selected the FML liner because it was significantly more flexible than an HDPE liner.

MWH also reported that the debris that was observed on the western edge of the anchor trench was related to the Town of Griffith Landfill. MWH reported that the interim cover of 12-inches of clay was placed on the areas inside the barrier wall, not necessarily over the debris from the landfill located outside of the barrier wall.

Hard Hat Services, Inc. (HHSI) mobilized to the site on Tuesday, September 10, 2002. MWH held a Health and Safety Kick-off Meeting for HHSI personnel on September 10, 2002. MWH reported that HHSI's work plan is being finalized and will be distributed once it is complete. HHSI began excavating the cut along the perimeter of the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) interim cover and preparing the subgrade. HHSI is conducting air monitoring within the work zone, and the equipment operators are voluntarily wearing half mask respirators. HHSI personnel will upgrade to full-face respirators should the PID readings exceed 10 ppm. MWH reported that it was conducting periodic perimeter air monitoring.

MWH conducted the semi-annual groundwater and annual residential well sampling events from September 9, 2002, through September 13, 2002. MWH collected water levels on September 9, 2002. MWH

reported that the water levels are approximately 1 foot lower than those observed during the spring sampling event. MWH sampled 28 monitoring wells, 2 ORC piezometers, and 3 of the 5 residential wells. MWH reported that it was unable to sample the well located at 1007 Reder Road (PW-A) because electricity was not restored to the house. MWH reported that it will sample the well at 1043 Reder Road (PW-T) instead. MWH expects to have groundwater sampling completed by September 17, 2002. MWH reported that the next sampling round, scheduled for March 2003, will include a full screen chemical analysis.

MWH reported that the OFCA ISVE system remained shut down for repairs. Vidimus welded the repaired duct work connecting the thermal oxidizer and scrubber. During welding, Vidimus worked within the confined space of the scrubber. MWH reported that the recirculation pump was installed on Friday, September 13, 2002. MWH also reported that it will be installing a temporary plastic packing so that it can operate the unit while it determines the type of permanent packing that will be used.

Last week, BVSPC inquired whether the appropriate grounding protection had been installed at the OFCA extraction well control panels. MWH had Austgen inspect the control panels and determined that the panels are installed with the appropriate grounding.

MWH reported that the groundwater treatment plant (GWTP) was not operating because of repair and maintenance activities. MWH expected to resume operating the GWTP on September 13, 2002.

MWH held the weekly construction coordination meeting on September 12, 2002.

Topics of Concern:

- The anchor trench for the OFCA FML appears to be crossing inside the barrier wall liner.
- BVSPC observed several portions of the barrier wall HDPE were compromised during anchor trench excavation activities.
- BVSPC expressed concern regarding the freezing and thawing conditions that the engineered cover may experience and the potential damage to liner integrity.
- BVSPC expressed concern over the drainage of the anchor trench based on its current construction.
- BVSPC observed shallow debris buried along the west side of the OFCA, uncovered during anchor trench excavation activities.
- The OFCA extraction well electrical panels may not be appropriately grounded.
- The residential well located at 1007 Reder Road could not be sampled during the annual residential well sampling event in October 2001 because the pump was not operating. This well is part of the long term monitoring program.

Concern Resolution:

- MWH reported the anchor trench for the OFCA FML was installed outside of the barrier wall based on GPS data and visual confirmation.
- MWH reported that the observed debris was from the Town of Griffith landfill and that the OFCA cover inside the barrier wall was constructed with a 12-inch-thick layer of clay.

- MWH investigated the damage to the barrier wall HDPE and determined that the damage to the liner was limited to the areas observed and did not compromise the integrity of wall.
- MWH reported that in selecting a FML, damage to the liner's integrity related to freeze-thaw conditions was minimized.
- MWH reported that the anchor trench will drain in the transverse direction to minimize any impacts from freeze-thaw.
- MWH reported that the observed debris was from the Town of Griffith landfill and that the OFCA cover inside the barrier wall was constructed with a 12-inch-thick layer of clay.
- Austgen inspected the grounding for the extraction wells and determined that it was compliant with code.
- MWH reported that it would sample the residential well located at 1043 Reder Road.

Upcoming Activities:

- ECI to continue installing the root zone material for the OFCA engineered cover.
- HHSI to continue preparing the subgrade for the ONCA SBPA interim cover.
- MWH to resume operating the OFCA ISVE system.
- MWH to complete residential well sampling.
- Ryan Construction to install heat transfer plates in tank T-2.

Signature: Leigh Peters Date: September 23, 2002

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WEEKLY CONSTRUCTION MEETING AGENDA
FOR SEPTEMBER 12, 2002 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA

MEETING DATE: Thursday, September 12, 2002

MEETING TIME: 10:00 am

MEETING LOCATION: ACS Site – Site Trailer

TOPICS:

Health and Safety Summary (Lee or Tom)

GWTP Status (Lee)
- Current flow rate
- Bio Tank heating system.

Off-Site ISVE System (Tom)
- Repairs of unit.
- Estimated completion date

Off-Site Final Cover (Todd/ECI)
- Liner Installation Complete
- Root Zone placement/compaction
- Schedule for next two weeks.
- Response to Black & Veatch comments

On-Site Interim Cover (Todd/Rob/Hard Hat)
- Construction Activities – summary
- Fence installation complete
- Schedule for next two weeks.

Groundwater Monitoring Event (Travis/Chad)
- Water levels collected September 9
- Wells and Private wells sampled starting September 10; expected to complete September 13

Looking Ahead

Week of...	**Task**
September 16	• GWTP system operation • Off-Site root zone placement • Hard Hat Services continue subbase preparation
September 23	• Off-Site cover work • On-Site cover work
Health and Safety Look Ahead	• H&S of Area Survey crew – wear appropriate PPE • On-Site cover work – PPE/Air monitoring/coordination with ACS facility

Next Weekly Construction Meeting
- Thursday, September 19, 2002

SIGN IN SHEET
WEEKLY CONSTRUCTION METING
SEPTEMBER 12, 2002

Name	Company	Fax Number
John McDonough	HHST	630 637 - 9471
ROB ADAMS	MWH	630-836-8959
PETER VAGT	MWH	630 · 836 · 8959
[illegible]	[illegible]	[illegible]
Steve Palmer	ECI	815 · 636 - 4304
Larry Campbell	BNSF	312 - 346 - 4781
Chad Smith	MWH	630 836 - 8959
TRAVIS KLINGFORTH	MWH	630 836 8959
Todd Lewis -	MWH	(via phone)
Chris Daly -	MWH	(")
Jon Pohl -	MWH	(")
Kevin Adler -	EPA	(via phone)
TOM TINLES	MWH	
LEE OROSZ	MWH	

WEEKLY CONSTRUCTION MEETING MINUTES FOR SEPTEMBER 12, 2002 MEETING AMERICAN CHEMICAL SERVICE, NPL SITE GRIFFITH, INDIANA

MEETING DATE: September 12, 2002

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES:
Todd Lewis – MWH (via phone)
Travis Klingforth – MWH
Tom Tinics – MWH
Peter Vagt – MWH
Rob Adams – MWH
Jon Pohl – MWH (via phone)
Lee Orosz – MWH
Chris Daly – MWH (via phone)
Chad Smith – MWH
Kevin Adler – U.S. EPA (via phone)
Prabhakar Kasarabada – IDEM
Larry Campbell – BVSPC
Steve Palmer – ECI
John McDonough – Hard Hat Services, Inc. (HHSI)

TOPICS:

Health and Safety Summary

No health and safety incidents have occurred since the last construction meeting. MWH conducted a health and safety kickoff meeting for Hard Hat Services, Inc. (HHSI) on September 10, 2002 for the installation of the Still Bottoms Pond Area (SBPA) Interim Cover. Tom Froman of the ACS facility addressed the specific Health and Safety issues related to working with the ACS facility. HHSI personnel received respirator fit tests from Occupational Testing Services on September 12.

MWH conducted a health and safety kickoff meeting for Vidimus on September 12 for confined-space welding repair inside the thermal oxidizer scrubber.

Groundwater Treatment Plant (GWTP) Status

The GWTP is currently not operating during repair and maintenance. Sludge build-up in the lamella clarifier is being cleaned out. The GWTP is expected to be operating again by September 13.

In-Situ Vapor Extraction (ISVE) System – Off-Site Area

The ISVE system is shutdown for repair. Vidimus, a mechanical contractor, is scheduled to weld together the scrubber unit on September 12 and 13. The interim packing for the scrubber unit and the repaired scrubber pump are scheduled to be delivered to the site during the week of September 16. The system should be re-assembled and re-started by the end of the week of September 16. The ISVE system will then be re-started for routine operation.

Off-Site Area Final Engineered Cover

Mid-America Lining (MAL), the subcontractor selected by the Environmental Contractors of Illinois (ECI) to install the flexible membrane liner (FML) material in the Off-Site Area, completed installation of the liner on September 7. They completed final extrusion welding and quality control testing on September 10 and demobilized on September 11. All quality control/quality assurance testing for the liner installation, including destructive and non-destructive testing, has been completed.

ECI began the placement of root zone material over the completed liner on September 9, beginning with the on-site stockpile of material excavated from the wetlands during 2001. ECI expects to begin importing root zone material on September 13 and complete the placement of root zone by the end of the week of September 16. ECI personnel are wearing high-visibility vests due to increased vehicle traffic while importing root zone material.

Black & Veatch (B&V) asked various questions about the Final Engineered Cover installation during the weekly construction meeting held on September 5. MWH has reviewed these issues and responded to them during the weekly construction meeting held on September 12. The following summarizes those responses:

- B&V requested that MWH further investigate the anchor trench alignment to confirm that it extended over the barrier wall along the south and west portions of the Site. MWH used a global positioning system (GPS) unit to record the locations where the existing barrier wall was visible along the anchor trench. The GPS data were compared to the original barrier wall as-built drawing produced by Foster Wheeler in 1997. Because of the inherent precision of the GPS it could not provide confirmation to less than one meter. At locations where the one-meter accuracy was a limitation and visual evidence of the barrier wall could not be obtained, Indiana state-licensed surveyors (Duneland Surveyors) will be surveying the horizontal extent of the anchor trench. It can then be compared to the Foster Wheeler drawings showing the precise location of the barrier wall. It should be noted however, that MWH achieved visual confirmation that the liner anchor trench extends beyond or immediately up to the barrier wall in each area where the barrier wall was visible.

- B&V pointed out that Town of Griffith garbage was noted less than one foot below ground surface along the anchor trench at an area along the western side of the cover area. B&V was concerned that this might indicate that the required one-foot thick interim cap might not exist at these locations. MWH used the GPS to obtain

coordinates along the eastern edge of the garbage for comparison with the as-built drawings of the barrier wall. The results showed that the location along the anchor trench where debris was uncovered is outside of the barrier wall and therefore beyond the area requiring the interim cover. Since the edge of the interim cover was tapered, its thickness decreased to less than 12 inches thick outside of the barrier wall.

- B&V requested that MWH examine the visible portions of the barrier wall uncovered during the anchor trenching process to insure that the integrity of the wall was not compromised during the trenching activities. MWH investigated these portions of the barrier wall and found that only small pieces of the top of barrier wall were removed in the trenching process. These pieces removed were approximately 12 to 18 inches long (across the top of the barrier wall) and less than six inches deep (along the height of the wall). The integrity of the surrounding portions of the wall was not compromised.

- B&V requested that MWH re-evaluate the freezing and thawing conditions that the final engineered cover may experience and to assess the potential damage it might cause to the liner integrity in the future. MWH has reviewed earlier stages of the Final Remedial Design process, specifically the 30% Remedial Design. Notes indicate that very flexible polyethylene (VFPE), or FML was selected for this construction because it is more flexible at low temperatures than the high-density polyethylene (HDPE), which is commonly used in landfill covers. Additionally, the Off-Site Area final engineered cover is not expected to undergo the degree of differential settlement usually associated with landfill construction because at this site, there is very little organic material underneath the liner to decay and create void space. Because the installed liner material is flexible even at low temperatures and the surface underneath the liner is not expected to settle, the liner integrity will not be compromised under the expected freezing and thawing conditions.

- B&V requested that MWH revise and clarify the installation Detail #1 for the anchor trench in the Request for Bid document to insure proper drainage. The anchor trench/outside clay interface was modified to the extent possible to eliminate the apparent "trough" shown in the detail. However, there may still be a small ridge in some areas of the anchor trench, particular along the interior north-south swale, because the anchor trenches generally follow existing swales water will still be able to drain properly. This drainage was confirmed after a rain event at the site when the stormwater exited the FML cover and into a swale without ponding. The revised anchor trench detail will be included in the Construction Completion Report.

- B&V requested that MWH review the Indiana electrical grounding requirements for the Off-Site Area barrier wall extraction system wells. Austgen Electric has reviewed the design and construction of the extraction wells and confirmed that they have been installed in accordance with National Electrical Code (NEC) requirements.

On-Site Still Bottoms Pond Area (SBPA) Interim Engineered Cover

Hard Hat Services, Inc. (HHSI) mobilized to the Site on September 10. A kickoff health and safety and construction meeting was conducted by MWH on September 10. As of September 12, HHSI has completed about 70% of the subbase preparation in the eastern portion of the SBPA. HHSI expects to complete the subbase preparation in both the eastern and western portions of the SBPA by the end of the week of September 16.

HHSI is conducting air monitoring during all working hours throughout the work area. MWH is conducting periodic air monitoring around the perimeter of the work area and outside the work area fence. Austgen Electric has investigated the SBPA for additional utilities that may not be shown on existing utilities drawings, and MWH and HHSI have reviewed their findings.

On-Site Area ISVE System

Bids have also been received for the installation of an additional thermal oxidizer unit for the On-Site Area ISVE system. MWH is reviewing the bids that have been received.

Boart Longyear will be installing the ISVE wells in the On-Site Area. A final scope document will be prepared to finalize the work activities and submitted to the U.S. EPA for information purposes.

Groundwater Monitoring

MWH is conducting the September 2002 groundwater monitoring event during the week of September 9. Water levels were collected on September 9. MWH began to sample monitoring wells on September 10. MWH expects to complete the monitoring well sampling during September 13 and residential well sampling by September 17.

The next round of sampling is scheduled for March 2003. It will be a full round with analysis of the full Target Compound List/Target Analyte List parameters.

Looking Ahead

Week of September 16, 2002	• Hard Hat continues subbase regrading for On-Site Area Interim Cover • ECI installs root zone in Off-Site Area • Thermal Oxidizer/Scrubber system repair is completed • Completion of private well sampling
Week of September 23, 2002	• Hard Hat installs piping during installation of On-Site Area Interim Cover • ECI installs topsoil in Off-Site Area

Anticipated Health and Safety Items to Watch for	• Off-Site Final Engineered Cover
	  • Vehicle Safety/Traffic Control (imported clay)
	• On-Site Interim Engineered Cover
	  • Fencing, communication with ACS facility and ECI
	  • Utility locate
	  • Vehicle Safety/Traffic Control (regrading activities)
	  • Air Monitoring
	  • PCB impacted material in former Fire Pond area

Next Weekly Construction Meeting

- Thursday, September 19, 2002

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Weekly Oversight Summary Report No. 81
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of September 16, 2002
BVSPC O/S Dates: September 17 and 19, 2002 (Ms. Peters)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	6	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Environmental Contractors of Illinois	4	OFCA Engineered Cover Contractor
Ryan Construction	1	General Contractor
Duneland Group	2	OFCA Engineered Cover Surveyor
K&S Testing	1	OFCA Engineered Cover Geotechnical Testing
Hard Hat Services, Inc.	5	ONCA SBPA Interim Cover Contractor
Area Survey	2	ONCA SBPA Interim Cover Surveyor

Construction Activities

Major Activities:

- Environmental Contractors of Illinois continued placing the root zone material over the flexible membrane liner on the Off-Site Containment Area engineered cover.
- Hard Hat Services, Inc. continued to grade the subgrade for the On-Site Containment Area Still Bottoms Pond Area interim cover.
- Area Survey surveyed the subgrade contours for the On-Site Containment Area Still Bottoms Pond Area interim cover.
- Montgomery Watson Harza resampled all residential wells for the annual residential well sampling event.
- Ryan Construction installed temporary packing in the Off-Site Containment Area in-situ soil vapor extraction system scrubber.
- Montgomery Watson Harza held the weekly construction coordination meeting.

Activities Performed:

Environmental Contractors of Illinois (ECI) continued to place the root zone material from off-site sources. ECI was unable to meet the 90% compaction and moisture requirements for the off-site root zone material.

Montgomery Watson Harza (MWH) decided to lessen the requirements for the off-site root zone material to 80% compaction and -1% to +2% of optimum moisture content. MWH also reported that it lessened the requirements for the on-site root zone material. MWH reported that ECI was required to meet the compaction requirement of 90%; however, ECI was not required to meeting the moisture requirements provided that the material was placed moist. MWH reported that ECI did not put a flagman on Colfax Avenue to aid in traffic control; rather, ECI relied on the existing signs warning of the trucks entering and leaving the site. ECI did have a laborer monitoring the truck entrance and exit to maintain Colfax Avenue free of dirt. ECI reported that it expected to have the root zone material placed by the end of next week. K&S Testing performed field testing for compaction and moisture and collected a sample from the material being brought on site for Proctor analysis. ECI continued to fill the anchor trenches with clay. ECI reported that it relocated the debris uncovered while excavating the anchor trenches to the On-Site Containment Area (ONCA).

BVSPC observed that piezometer P116, located on the western portion of the OFCA, was bent towards the east. BVSPC discussed this with MWH who stated that it was likely that the FML had "pulled" the piezometer toward the center of the OFCA. MWH and ECI reported that the placement of root zone material around the piezometer will stabilize it. MWH reported that it inspected P116 and determined that its integrity was maintained.

Hard Hat Services, Inc. (HHSI) continued to prepare the subgrade for the ONCA Still Bottoms Pond Area (SBPA) interim cover. HHSI completed the perimeter cuts on September 17, 2002. HHSI rolled the subgrade with a smooth drum roller and observed some void spaces in the subgrade near the ACS employee break room, on the northern portion of the SBPA. HHSI monitored the air above the voids in the breathing zone with the photoionization detector (PID) and detected 0.2 to 0.4 ppm. When HHSI monitored the air inside of the voids, it detected 80 ppm. MWH reported that it will have HHSI fill the void areas with pea gravel prior to placing the clay for the interim cover. MWH also reported that it modified the cover design in the SBPA where the existing ACS stormwater piping is located. MWH reported that it will have HHSI line the excavation with FML, then place a geotextile, and backfill with gravel. This design reduces the depth of the cut around the perimeter to make a shelf at the top of the piping. Area Survey began surveying the subgrade contours and staking the location of the conveyance piping trenches on September 19, 2002. HHSI expects to begin trenching activities for the SBPA in-situ soil vapor extraction (ISVE) system piping next week.

MWH reported that there was a shipping error in the groundwater samples collected last week; the samples shipped on September 13, 2002, arrived at the laboratory late and had expired. MWH resampled all of the residential wells on September 17, 2002. MWH reported that it will resample on September 23, 2002, the monitoring wells and ORC piezometers from which the samples were not analyzed.

MWH reported that the temporary plastic packing was installed in the OFCA ISVE system scrubber. MWH began operating the thermal oxidizer to get the system up to temperature. MWH observed that the temperature of the thermal oxidizer would only reach 800°F, over 700°F below its standard operating temperature. Ryan Construction and MWH inspected the unit. Ryan Construction and MWH determined

that the high fire gas valve was not operating properly and conducted the appropriate repairs. MWH reported that it would resume bringing the unit up to temperature to resume operation.

MWH reported that the groundwater treatment plant (GWTP) was operating at 45 gpm and that the maintenance activities had been completed. MWH reported that it continues to work on the heat exchanger design for the GWTP.

MWH held the weekly construction coordination meeting on September 19, 2002.

Topics of Concern:

- None.

Concern Resolution:

- None.

Upcoming Activities:

- ECI to begin installing the topsoil for the OFCA engineered cover.
- HHSI to begin trenching for the SBPA ISVE system piping.
- MWH to resume operating the OFCA ISVE system.
- MWH to resample wells and ORC piezometers on September 23, 2002.
- Ryan Construction to install heat transfer plates in tank T-2.

Signature: Leigh Peters Date: September 23, 2002

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WEEKLY CONSTRUCTION MEETING AGENDA
FOR SEPTEMBER 19, 2002 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA

MEETING DATE: Thursday, September 19, 2002

MEETING TIME: 10:00 am

MEETING LOCATION: ACS Site – Site Trailer

TOPICS:

Health and Safety Summary (Lee or Tom)

GWTP Status (Lee)
- Current flow rate
- Bio Tank heating system.

Off-Site ISVE System (Tom)
- Repairs of unit.
- Estimated completion date

Off-Site Final Cover (Todd/ECI)
- Root Zone placement/compaction
- Topsoil/Grass installation
- Schedule for next two weeks.

On-Site Interim Cover (Todd/Rob/Hard Hat)
- Construction Activities – summary
- Subbase preparation
- Piping installation
- Schedule for next two weeks.

Groundwater Monitoring Event (Travis/Chad)
- Wells and Private wells sampling

Looking Ahead

Week of...	Task
September 23	• GWTP system operation • Off-Site root zone placement • Hard Hat Services pipe installation
September 30	• GWTP system operation • Off-Site cover work – topsoil/grass placement • On-Site cover work – clay placement
Health and Safety Look Ahead	• On-Site cover work – PPE/Air monitoring/coordination with ACS facility

Next Weekly Construction Meeting
- Thursday, September 26, 2002

SIGN IN SHEET
WEEKLY CONSTRUCTION METING
SEPTEMBER 19, 2002

Name	Company	Fax Number
Todd Lewis	MWH	630 836 8959
Tom Tinics	MWH	
Rob Adams	MWH	630 - 836 - 8959
Travis Klingforth	MWH	
Chris Daly (via phone)	MWH	
Chad Smith (via phone)	MWH	
Leigh Peters	BVSPC	312-346-4781
Steve Palmer	ECI	815-636-4304
Peter Vagt	MWH	630 836-8959
Lee Orosz	MWH	
John McDonough	HHSI	630 637-9471
Mark Travers	Environ (via phone)	

WEEKLY CONSTRUCTION MEETING MINUTES FOR SEPTEMBER 19, 2002 MEETING AMERICAN CHEMICAL SERVICE, NPL SITE GRIFFITH, INDIANA

MEETING DATE: September 19, 2002

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES:
Todd Lewis – MWH (via phone)
Travis Klingforth – MWH
Tom Tinics – MWH
Peter Vagt – MWH
Rob Adams – MWH
Lee Orosz – MWH
Chris Daly – MWH (via phone)
Chad Smith – MWH (via phone)
Leigh Peters – BVSPC
Steve Palmer – ECI
John McDonough – Hard Hat Services, Inc. (HHSI)
Mark Travers – Environ (via phone)

TOPICS:

Health and Safety Summary

No health and safety incidents have occurred since the last construction meeting. Hard Hat Services, Inc. (HHSI) continue to wear protective overboots inside the exclusion zone during the installation of the On-Site Interim Cover due to the potential presence of contaminated soils. They also wear respirators during intrusive work due to the potential for volatile organic compounds (VOCs). Personnel working in the construction area, including HHSI and Environmental Contractors of Illinois (ECI) personnel, are wearing high-visibility safety vests due to assorted vehicle traffic on the Site.

Groundwater Treatment Plant (GWTP) Status

The GWTP is currently operating normally at 45 gallons per minute (gpm). The GWTP was restarted on September 12 after sludge build-up in the lamella clarifier was cleaned out as part of routine maintenance. MWH anticipates receiving and reviewing the fabrication drawings for the heat exchanger unit soon.

In-Situ Vapor Extraction (ISVE) System – Off-Site Area

The ISVE system repairs were completed September 17. The internal packing was washed down and MWH began trial runs to restart the system. During trial runs, a high

fire gas valve malfunctioned and was repaired on September 19. The system is expected to be reassembled and restarted by September 20.

Off-Site Area Final Engineered Cover

ECI continued the placement of root zone material over the completed liner and continued compaction and moisture testing of the placed material. ECI expects to complete root zone placement and begin topsoil placement during the week of September 23. Grass seed will be placed using hydroseeding methods after the topsoil is installed.

On-Site Still Bottoms Pond Area (SBPA) Interim Engineered Cover

Hard Hat Services, Inc. (HHSI) has substantially completed the subbase preparation for the interim cover. Area Survey is currently surveying the subbase contours and laying out the pipe run locations. HHSI expects to begin trenching and installing pipe on September 23. HHSI anticipates beginning to import clay material to the Site for placement by September 27.

During subbase preparation, MWH has observed void spaces that are visible in the northern portion of the SBPA. These void spaces are caused by debris that is located in the area of the original treatment lagoon. These findings are consistent with the findings of the Remedial Investigation. MWH will evaluate the potential impact of these void spaces and drum debris on the clay cover. MWH will either remove and rebury the material or fill the voids.

MWH has modified the perimeter cut design in two areas along the northern edge of the SBPA. Existing stormwater pipes, which run just inside the SBPA cover extents, will be covered with flexible membrane liner (FML), geotextile, and gravel instead of the 12-inches of clay as originally planned. This will result in a thinner but equally effective cover and enable the original design contours to be achieved in this area. As suggested by Black & Veatch, MWH has included a detail drawing depicting the change (see attached). The FML material to be used is excess material from the Off-Site Area Final Cover construction and is already approved for use.

HHSI is conducting regular air monitoring throughout the work area. MWH is conducting periodic air monitoring around the perimeter of the work area and outside the work area fence.

On-Site Area ISVE System

Bids have also been received for the installation of an additional thermal oxidizer unit for the On-Site Area ISVE system. MWH is currently reviewing the bids.

Boart Longyear is expected to install the ISVE wells in the On-Site Area. A final scope document has been prepared to define the work activities. It has been submitted to the U.S. EPA, IDEM, and Black & Veatch for information purposes.

Groundwater Monitoring

MWH began conducting the September 2002 groundwater monitoring event during the week of September 9. Due to a shipping delay by Federal Express, some of the samples

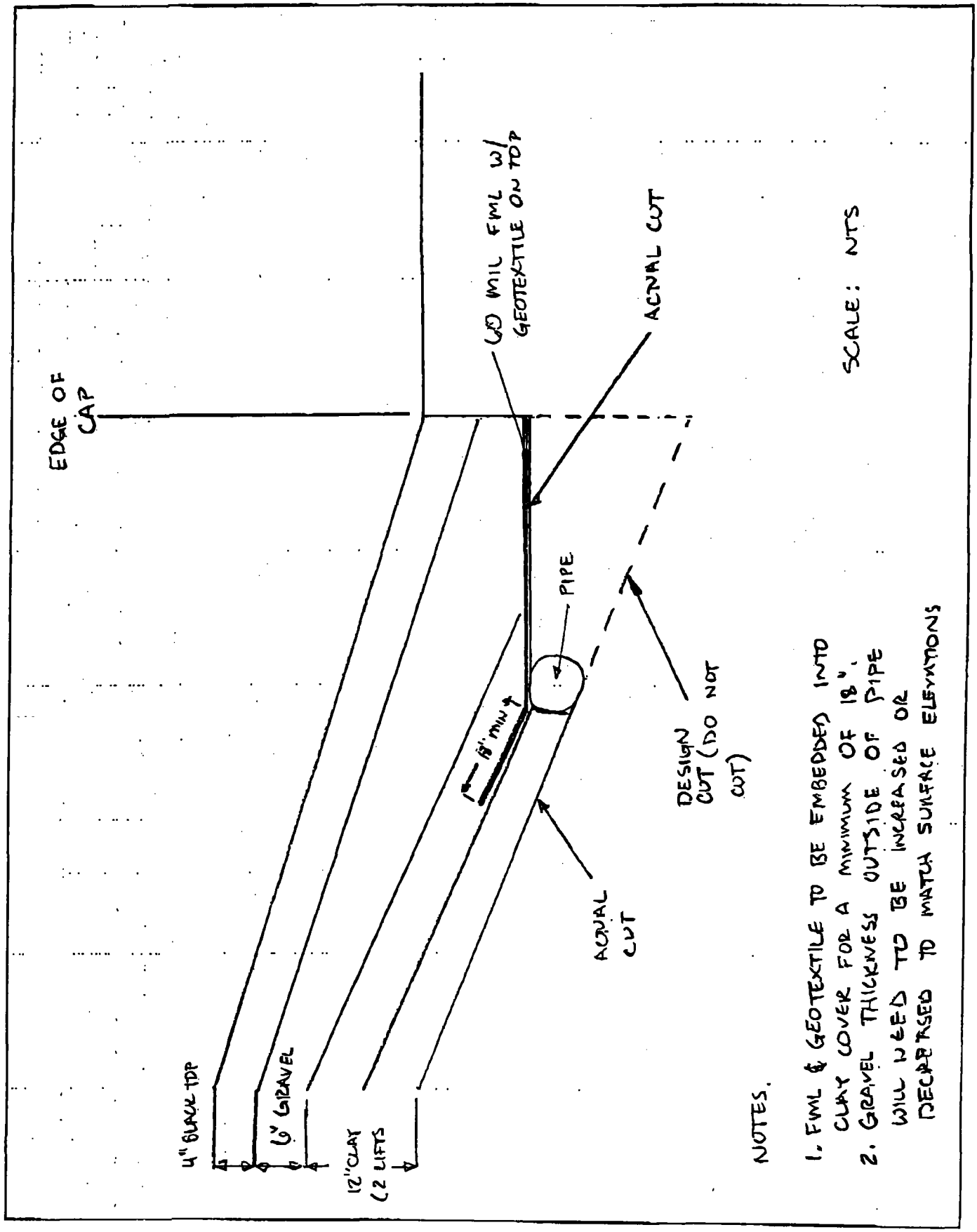
arrived at the laboratory at elevated temperatures and so those locations will need to be resampled. MWH expects to complete the monitoring well sampling, including necessary resamples, on September 24. The next round of sampling is scheduled for March 2003.

The cover for piezometer P-112 is missing and will be replaced. P-116, which has been noticed to bend slightly due to liner expansion/contraction around the piezometer, has been checked by MWH geologists and found to be undamaged. The piezometer will be further stabilized once root zone material and a concrete protective ring are placed around the piezometer. MWH will resurvey the top of casing elevation if needed after the concrete ring is replaced.

MWH
MONTGOMERY WATSON HARZA

By RAA Date 9/24/02 Client ACS Sheet 1 of

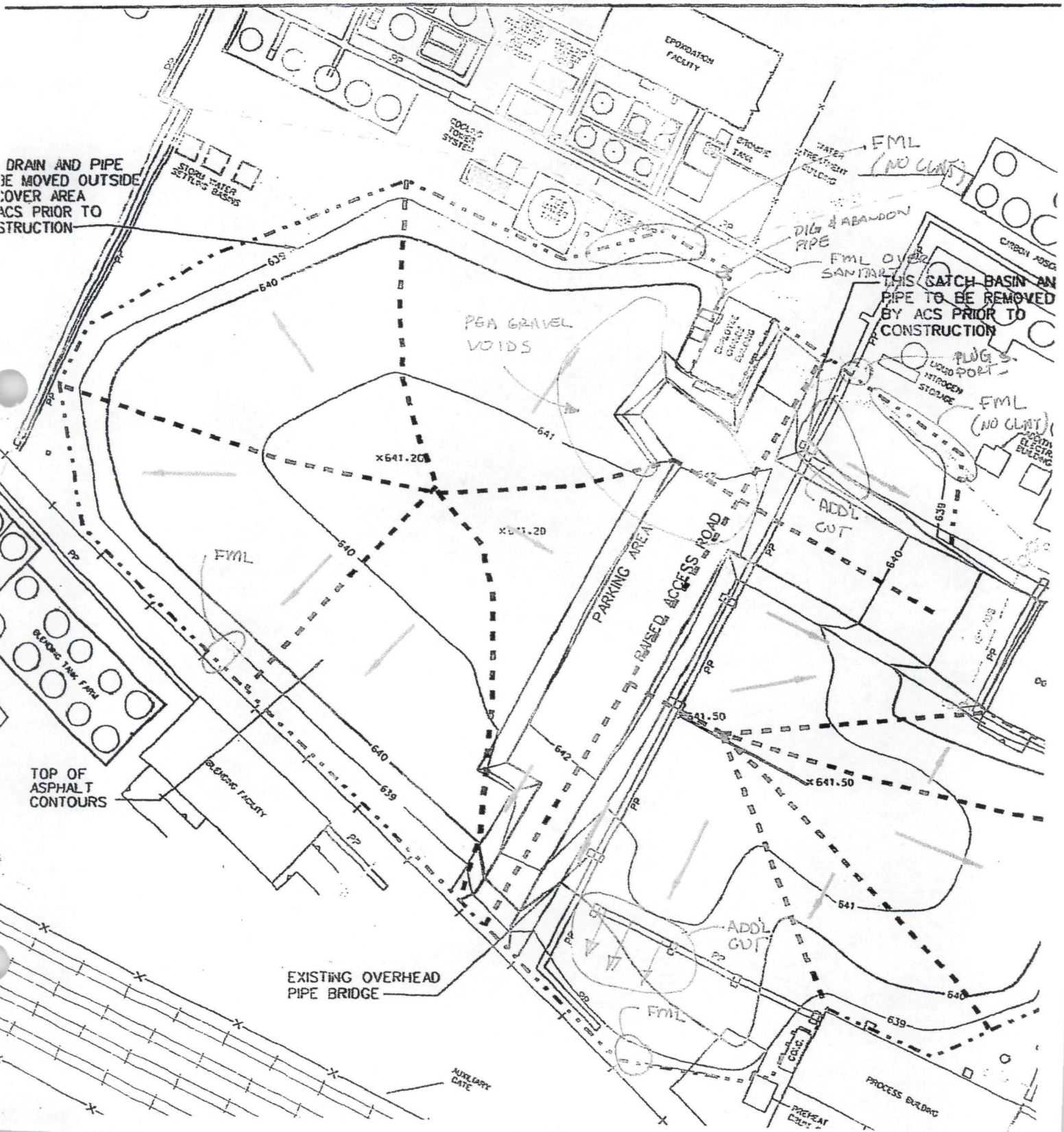
Chkd. By Description SBPA INTERIM COVER: FML ALTERNATIVE DETAIL Job No. 2090601



9/19/02

Remaining Surface Prep

for Hard Hat



Weekly Oversight Summary Report No. 82
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of September 23, 2002
BVSPC O/S Dates: September 24 and 26, 2002 (Ms. Peters)

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	5	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Environmental Contractors of Illinois	4	OFCA Engineered Cover Contractor
Ryan Construction	1	General Contractor
Duneland Group	2	OFCA Engineered Cover Surveyor
K&S Testing	2	OFCA Engineered Cover Geotechnical Testing
Hard Hat Services, Inc.	5	ONCA SBPA Interim Cover Contractor
Area Survey	2	ONCA SBPA Interim Cover Surveyor
Simalabs	1	Sampling and Laboratory Contractor

Construction Activities

Major Activities:

- Environmental Contractors of Illinois completed placing the root zone material over the flexible membrane liner on the Off-Site Containment Area engineered cover and began placing topsoil.
- K&S Testing continued geotechnical testing of the Off-Site Containment Area engineered cover root zone material.
- Environmental Contractors of Illinois damaged Off-Site Containment Area in-situ soil vapor extraction well SVE-38.
- Hard Hat Services, Inc. began installing conveyance piping and pressure testing for the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system.
- Area Survey surveyed the trench location for the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system.
- Montgomery Watson Harza contracted with Boart-Longyear for the installation of the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction wells.

- Montgomery Watson Harza resampled monitoring wells and ORC piezometers for the semi-annual groundwater sampling event.
- Montgomery Watson Harza resumed operating the Off-Site Containment Area in-situ soil vapor extraction system.
- ACS damaged and repaired the conveyance piping for the On-Site Containment Area extraction wells to the groundwater treatment plant.
- Montgomery Watson Harza held the weekly construction coordination meeting.

Activities Performed:

Environmental Contractors of Illinois (ECI) completed placing the off-site root zone material on the Off-Site Containment Area (OFCA) engineered cover. K&S Testing performed field density testing of the compacted material. ECI met MWH's compaction requirements for the material; however, ECI did not meet the moisture requirements. ECI began discing the areas that did not meet the moisture requirements, added water, and recompacted for testing next week. ECI began placing topsoil on the southern portion of the OFCA engineered cover where the root zone material met MWH's modified compaction and moisture requirements.

MWH reported that ECI damaged the flexible membrane liner (FML) boot and punctured OFCA ISVE well SVE-38 with the corner of the blade from the bulldozer. MWH and ECI inspected the damaged to the well and observed that the puncture damage was limited to the 5-foot-long stainless steel riser pipe. ECI cut the FML boot to expose the clay cover. MWH reported that it would investigate the damage to the saddle next week and ECI would replace the damaged riser.

MWH reported that ECI is scheduled to continue placing topsoil next week and is scheduled to demobilize from the site on October 4, 2002. Because of the schedule changes, Black & Veatch Special Projects Corp. (BVSPC) asked MWH what the plans were for seeding the OFCA engineered cover since ECI would not likely meet the September 30, 2002, deadline for seeding. MWH reported that it extended the seeding deadline to October 4, 2002.

Hard Hat Services, Inc. (HHSI) began excavating the trench for the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system. During trenching activities, HHSI damaged an ACS 18-inch-diameter catch basin line. HHSI removed the damaged portion of the line and installed a patch on September 24, 2002. HHSI installed the piping for trench runs A and B. HHSI performed air monitoring and voluntarily wore respirators while working in the trench. HHSI also pressured tested the 2-inch-diameter and 3-inch-diameter HDPE piping. HHSI was required to pressurize the piping to 90 psi for 15 minutes without losing more than 5 psi. HHSI successfully met the requirements. Area Survey surveyed the locations of the installed piping.

HHSI reported that it would begin trenching for the perimeter 3-inch-diameter water conveyance piping next week and will start bringing clay on-site for the cover. Trucks will be entering the site from the west gate near MWH's trailer, tip on the ONCA SBPA work area, and exit the ONCA at the south gate. Trucks will then travel on the south side of the railroad tracks and exit onto Colfax Avenue.

MWH reported that it contracted with Boart-Longyear (BLA) to install the ONCA SBPA ISVE wells. MWH also reported that BLA is scheduled to mobilize to the site on October 14, 2002. MWH reported that it will conduct a Health and Safety Kick-off Meeting for BLA once it has mobilized to the site. Coordination with HHSI activities will be emphasized in this meeting.

MWH reported that it completed its resampling of four monitoring wells and two ORC piezometers on Monday, September 23, 2002. MWH reported that it would confirm that the samples were received by the lab on time.

MWH resumed operating the repaired OFCA ISVE system on Wednesday, September 25, 2002. MWH reported that it was drawing vapor from 19 wells. MWH also reported that the dilution air valve in the OFCA blower shed was open at 75% in order to minimize exceeding the temperature limits of the thermal oxidizer and temporary plastic scrubber packing. BVSPC observed that the heat shielding was not replaced on the duct work between the thermal oxidizer and scrubber. BVSPC also observed that MWH did not post signs warning of the elevated temperatures of the duct work. MWH reported that the temperature of the duct after the primary quench bar was approximately 140°F, and was not elevated enough to warrant additional precautions. When asked by BVSPC about the duct work upstream of the primary quench bar that has historically been approximately 600°F, MWH reported that the duct work was out of reach of personnel and did not necessitate any signs.

MWH reported that the groundwater treatment plant (GWTP) was operating at 45 gpm until September 25, 2002, when ACS personnel damaged the 2-inch-diameter conveyance piping from the ONCA extraction wells to the GWTP. MWH shut down the ONCA extraction wells in order for ACS to repair the line. The GWTP was operating at 15 gpm while the line was being repaired. ACS completed repairs to the line on September 26, 2002. MWH resumed pumping from the ONCA extraction wells on September 27, 2002.

MWH held the weekly construction coordination meeting on September 26, 2002.

Topics of Concern:

- MWH did not replace the heat shielding on the ducting connecting the OFCA ISVE thermal oxidizer to the scrubber system, nor did it place any warning placards.

Concern Resolution:

- MWH reported that it measured the temperature of the ducting after the primary quench bar and that the exterior of the ducting was 140°F and did not require labeling. MWH also stated that the ducting upstream of the quench bar was out of reach for personnel and it did not believe that labeling was necessary.

Upcoming Activities:

- ECI to begin installing the topsoil and seed the OFCA engineered cover.
- HHSI to continue trenching and installing the SBPA ISVE system piping.
- MWH to continue operating the OFCA ISVE system.

- BLA to install the ONCA SBPA ISVE system wells.
- Ryan Construction to install heat transfer plates in tank T-2.

Signature: Leigh Peters Date: September 30, 2002

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WEEKLY CONSTRUCTION MEETING AGENDA
FOR SEPTEMBER 26, 2002 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA

MEETING DATE: Thursday, September 26, 2002

MEETING TIME: 10:00 am

MEETING LOCATION: ACS Site – Site Trailer

TOPICS:

Health and Safety Summary (Lee or Tom)

GWTP Status (Lee)
- Current flow rate
- Bio Tank heating system.

Off-Site ISVE System (Tom)
- Restarting unit

Off-Site Final Cover (Todd/ECI)
- Root Zone placement/compaction
- Topsoil/Grass installation
- Schedule for next two weeks.

On-Site Interim Cover (Todd/Rob/Hard Hat)
- Construction Activities – summary
- Subbase preparation
- Piping installation, pressure testing
- Clay placement, compaction
- Schedule for next two weeks.

Groundwater Monitoring Event (Travis/Chad)
- Wells and Private wells sampling

Looking Ahead

Week of...	**Task**
September 30	• GWTP system operation • Off-Site completion • Hard Hat Services pipe installation, clay placement
October 7	• GWTP system operation • Hard Hat Services pipe installation, clay placement
Health and Safety Look Ahead	• On-Site cover work – PPE/Air monitoring/coordination with ACS facility • Vehicle traffic safety

Next Weekly Construction Meeting
- Thursday, October 3, 2002

SIGN IN SHEET
WEEKLY CONSTRUCTION METING
SEPTEMBER 26, 2002

Name	Company	Fax Number
LEE OROSZ	MWH	
Tom Timics	MWH	
~~Jeff~~ Leigh Peters	BVSPC	312-346-4781
ROB ADAMS	MWH	630-836-8959
Travis Klingforth	MWH	
JON POHL	MWH	
VIA PHONE		
KEVIN ADLER		
PETE VAGT		
Todd Lewis		
CHRIS DALY		
JOHN (Mc DONNAUGH) Sp?		

WEEKLY CONSTRUCTION MEETING MINUTES FOR SEPTEMBER 26, 2002 MEETING AMERICAN CHEMICAL SERVICE, NPL SITE GRIFFITH, INDIANA

MEETING DATE: September 26, 2002

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES:
Todd Lewis – MWH (via phone)
Travis Klingforth – MWH
Tom Tinics – MWH
Peter Vagt – MWH (via phone)
Rob Adams – MWH
Lee Orosz – MWH
Jon Pohl – MWH
Chris Daly – MWH (via phone)
Kevin Adler – U.S. EPA (via phone)
Leigh Peters – BVSPC
John McDonough – Hard Hat Services, Inc. (HHSI) (via phone)

TOPICS:

Health and Safety Summary
No health and safety incidents have occurred since the last construction meeting.

Groundwater Treatment Plant (GWTP) Status
Personnel from the ACS facility damaged one of the Barrier Wall Extraction System (BWES) lines in the On-Site Area. ACS personnel are currently repairing the line.

The GWTP had been operating normally at 45 gallons per minute (gpm) until the On-Site Area BWES line was damaged, as mentioned above. The current system flow is 15 gpm and will remain at approximately that rate until the line repair is completed.

In-Situ Vapor Extraction (ISVE) System – Off-Site Area
The ISVE system repairs were completed September 17 and the system was restarted on September 23. Initial complications with the pH adjustment system have been resolved. Since restarting the system, MWH has operated the system with lower high-temperature alarm points to avoid any potential damage to the plastic packing.

The exterior temperature of the repaired thermal oxidizer scrubber unit is lower than anticipated (approximately 140 degrees F). Therefore, additional shielding will not be installed at this time.

Currently 19 ISVE wells are in operation. Influent and effluent off-gas samples from the thermal oxidizer unit are scheduled to be collected on September 26 for the month of September.

Off-Site Area Final Engineered Cover

Environmental Contractors of Illinois (ECI) completed placement of root zone material over the completed liner on September 26 and continued compaction and moisture testing of the placed material. ECI began topsoil placement on September 26. Grass seed will be placed during the week of September 30 using hydroseeding methods after the topsoil is installed. ECI has marked the alignment of the gravel access road from the southern gate to the Blower Shed.

ECI damaged extraction well SVE-38 during soil placement activities on September 24. Initial investigation indicates there is minimal damage to the well. MWH will work with ECI to assure a complete and adequate repair of the well as soon as possible.

On-Site Still Bottoms Pond Area (SBPA) Interim Engineered Cover

Hard Hat Services, Inc. (HHSI) completed the subbase preparation for the interim cover on September 19 and surveyed the subbase on September 20 and 23. Area Survey has also laid out the proposed pipe run locations. HHSI began trenching and installing pipe on September 23. HHSI has completed trenches A and B. HHSI anticipates pressure testing the two-inch and three-inch diameter lines on September 26. HHSI anticipates beginning to import clay material to the Site for placement by October 4.

MWH and HHSI will be field-adjusting the proposed alignment of the southern and eastern pipe trenches to conforming to actual field conditions.

On-Site Area ISVE System

Notice to proceed has been given to Boart Longyear and Associates (BLA) for the installation of the ISVE wells in the On-Site Area. BLA's target start date is October 14, depending on HHSI's progress. BLA is expected to begin work before HHSI has demobilized and install wells in areas were the interim cover has already been completed.

Groundwater Monitoring

MWH began conducting the September 2002 groundwater monitoring event during the week of September 9. Due to a shipping delay by Federal Express, some of the samples arrived at the laboratory at elevated temperatures and so some locations needed to be resampled. MWH completed the monitoring well sampling, including necessary resamples, on September 23. The next round of sampling is scheduled for March 2003.

Looking Ahead

Week of September 30, 2002	• HHSI installs and tests piping during installation of On-Site Area Interim Cover • ECI installs topsoil and plants grass in Off-Site Area
Week of October 7, 2002	• HHSI continues to install piping during installation of On-Site Area Interim Cover • HHSI begins placement of clay

Anticipated Health and Safety Items to Watch for	• Off-Site Final Engineered Cover
	  • Vehicle Safety/Traffic Control (imported clay)
	• On-Site Interim Engineered Cover
	  • Fencing, communication with ACS facility and ECI
	  • Utility locate
	  • Vehicle Safety/Traffic Control (regrading activities)
	  • Air Monitoring
	  • Generator safety
	  • High pressure testing safety
	  • Trenching safety
	  • Preparation for BLA mobilization

Next Weekly Construction Meeting

- Thursday, October 3, 2002

TMK/PJV/RAA/TAL
J:\209\0601 ACS\0202 MWA PM\Meeting Minutes 2002\Meeting Minutes 09-26-02 final.doc

Chad I Seely 09/04/02

6:40 ARRived ONSite @ AES, WEather Temp 63°F, Wind No Wind, Sunny.

Present TODAY

Lee Crose	MWH
Bob Poage	ECI
Steve Palmer	ECI
Mike McDaniel	MAL
Greg Parrott	MAL
Arturo Gonzalez	MAL
José Luis Nunes	MAL
Oscar Acevedo	MAL
Juan S. Sanchez	MAL
Mijel Sanchez	MAL
Julio Rodriges	MAL
Unverto Gonsales	MAL
Roberto Perez	MAL
Cris Pin Subcltez	MAL
Manti Surrentos	MAL
Eric Roberto	MAL
David Perham	MAL
Mike Meeleary's	ECI
Steven Lloyd	ECI
Ron Termini	Krupp

Activities Today:

① OFFSite Area Cap.

Chad I Seel

Chad I Seely 09/04/02

(2) Remove man Lift from Bio Tank AFTER Inspection

7:15 Met w/ Lee about activities AND progress of the OFFSite Linear. ECI is going to install, Lee Said ECI Just Started w/ the 2ft deep 1 foot wide anchor trench.

SAFETY All personnel installing the Trench ARE Suppose to be 40hr trained w/ Respirator Test fittings Also Continuous air monitoring of Breathing Zone.

7:30 Currently on the OFFSite AREA. The Liner Crew ARE filling Sand Bags. ECI is Excavating in the South west CORNER.

MAL Health & Safety Orientation w/ Lee Took Place.

Question.

1) Improcking the Liner Wall acum powelo
2) How is the 18" Cover going to be maintained @ the Perimeter between the Anchor Trench and Linear.
3) Freeze prevention of Linear AND Drainage

Chad I Seel

(138)

Chad Sailer 09/04/02

8:11 met w/ Randy Price Health & Safety officer. He has Calibrated the Mini RAE Multi Meter and has Dragging Tubs available in case any VOC are Detected. Current Concern is the anchor trench is in the inside of the wall and is suppose to be on the out Side of the wall. (Barrier Wall). Lee & Travis are looking @ the problem with Steve Palmer.

9:06 Equipment onSite:
(2) 750C John Deere Dozer LGP
(1) Skid Loader GEHL 6635
(1) Komatsu Loader WA180
(1) Ingersoll Rand Roller.
(1) 710 D John Deere Rubber Tire Back hole.

9:16 Roll #6 Picture 1 & 2 Facing South of the Anchor trench for the MFL where ECI has Remove Soil From around the Barrier Wall. (OFF Site Area South west Corner).

(139)

Chad Sailer

9:27 Talk To Travis he is having Rob look into the issues of the Inner Location of the Anchor trench, Freeze thaw of the Liner. New Question the Electrical Pannels on top of the Extraction Vault are Not Grounded.

9:46 Picture Roll 26 #3 Facing North @ Extraction well 20C. of the Electrical Pannel. Question is where is the Ground.

9:54 Picture 4 Facing East / North East of MFL Filling Sand Bag and preparing to Start Deploying the MFL.

9:56 Started Layed out three Test Sections of MFL. and Layed it w/ 12 inches of Sand.

10:48 Talking w/ Tom Tinics. about Lighting Protection Equipment. Soil Samples for the Soil have Been taken.

(140) Charles Sailey 09/04/02

11:55 Testing Engineer are onsite Testing Compaction of the Soil AND MFL Test AREA, what is Shooting for 90% Compaction. Moisture @ 10% Need 14%. ECI is going to Start watering the Soil To make Compaction.

12:13 Picture Roll 2 #5 Facing EAST of the Test Pad of the MFL AND Soil ECI Compacting the Soil w/ DOZER Due to the Liner Can only Have 15 psi.

13:35 Holding for Testing Engineers to Return the Nuclear Density machine went Down.

13:46 ECI is Removing the material Excavated from the Anchor Trench AND Stock piling the material for use as fill.

13:49 Picture #6 Facing North west @ OFFSite AREA Near the West Side of the Site Next to the Anchor Trench of Debris Coming up in the Clean fill Clay material.

Charles Sailey

Roll 2 Charles Sailey 09/04/02 (141)

13:55 Picture 7 Facing North @ Anchor Trench on the West Side of off Site AREA of ECI Excavating through trash.

13:58 Picture 8 Facing North @ Anchor Trench on the West Side of off Site AREA of Trash AND Debris, ECI is on Line with the Staked AREA.

14:09 ECI is going to Stage the Debris on plastic for a Later Decision on Disposal.

14:10 Testing Engineer have Returned.

14:23 Top Soil Did Not Pass Compaction, Top Soil/Root material is 6 inches thick, upon Final Grading AND Seeding the Top Soil/Root material will be tilled to Receive Seed. The Material Did pass moisture.

I asked for A Copy of the following:

1. Compaction Results
2. Moisture Results
3. Manufacturer Specification on MFL

Charles Sailey

(7) A writen Clarification on the Anchor trench Placement w/ Relation to Barrier Wall.

CONCERNS:

(1) Clay Cover on west Side of the offSite AREA is only 4 to 6" inches thick. it is Suppose to be 12 inches.

(2) Debris in the Clay Cover Such as Steel, Plastic Bags and Organic matter. This Material is suppose to be CLEAN tested material.

(3) Thickness of the material/Soil cover @ the Building and @ Anchor trenches.

(4) Lightning Protection on the Extraction Eletrical Pannels.

(5) The MFL Liner cracking Due to Freezing over time.

(6) Ripped a portion of Barrier wall on west Side what is the impacted on the Barrier wall.

[signature]

15:47	ECI Grading Clay
15:48	Picture 9 Facing west, @ Pick a Kazmer (SP) AREA of ECI Placing Clay in Low AREAS.
15:57	Picture (Roll 26) 10 Facing North @ Anchor trench on west Side of ECI Excavating Next to the Barrier Wall.
16:02	There are No decision on MFL Placement.

[signature] 09/04/02

1/14

8:00 Arrive onsite at AES

Weather clear, warm 78F calm

Personnel onsite

*	Lee Orusz	Mwh	
	Steve Palmer	ECI	Steve Lloyd
	Bob Page	ECI	Mike Medearis
	Mike McDaniel	MAL	Eric Roberts
	David Parker	MAL	Greg Parrott
	Juan Sanchez	MAL	Jose Luis
	Oscar Acevedo	MAL	Miguel Sanchez
	Chris Sanchez	MAL	Arturo Gonzalez
	Humberto Gonzalez	MAL	Julio Rodriguez
	Roberto Perez	MAL	Martin Serrabs
*	Travis Klingforth	Mwh	
*	Randy Price	ECI	
	Mike Bristley	Austen	
*	Larry Campbell	BVSPC	
*	Tony Tinics	Mwh	
	Tim Kirkland	Austgen	
*	Rob Adams	Mwh	
	Mike Chenoweth	Simalabs	

* Attended Const. Mtg @ 10 AM

JM Campbell

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0820 Met Travis Klingforth in OFC
Discussed some concerns identified
Yesterday regarding Topsoil compaction,
Anchor trench outside/inside barrier wall,
Thickness of clay cover of trash. These
items to be discussed in today's mtg

0825 Met ECI Mgr in OFC

0830 Excavating trench on E side -
backhoe hit electrical conduit to
blower shed - sparked - No injury

0835 MAL started laying 2nd liner strip at
SW corner
Photo 9 looking SW as liner being cut to
slip over ISVE well 5
Photo 12 looking SW after liner placed over
ISVE well 5
Photo 13 looking E showing cut in liner for
placement over ISVE well 5 - to be patched

0915 Photo 14 looking W showing seaming
of 1st & 2nd strips of liner near W end.
Photo 15 looking W. Showing liner
in South Anchor trench - before backfill

0945 Photo 16 looking S. Pressure Testing
welded seams

0950 Photo 17 looking SE at electrical
lines hit by backhoe - being repaired

JM Campbell

10:00 } Construction Mtg
11:30 }
11:40 Visit OFCA w/ Rob & Travis
to inspect location of anchor
Trench on S. & W. sides of OFCA
& its location relative to barrier wall
12:05 Photo 18 fpm Looking SE at
repaired electrical cables
12:15 - 1:15 Lunch
1:40 Photo 19 fpm Looking W showing
pickup of roll of liner mat'l.
1:55 Inspected W. Anchor trench where
garbage fill had been found.
2:10 Photo 20 fpm Looking S. Showing exposed
Liner from liner test fill
2:20 Photo 21 fpm Looking NW Showing placement
of mounded soil around ISVE well 30
2:55 Photo 22 fpm Looking E Showing Travis
Klingforth determining GPS coord. of
Barrier Wall on S. Side
3:15 Photo 23 fpm Looking E Showing cutting of
4" dia. hole to make boot for ISVE Well
Photo 24 fpm Looking E. Installing boot
patch on ISVE well
Photo 25 fpm Looking NE Showing boot
in place on ISVE well - will extrusion
weld to liner tomorrow AM when wrinkles gone
JM Campbell

3:30 Photo 26 fpm Looking at knife used to
cut liner - Note notch than minimizes
damage to underlying liner
Photo 27 fpm Showing installation of
liner mat'l on ISVE well for boot
0400 Completed installing 11 strips of
FML today - ≈ 2 acres
- Equipment onsite
Same as yesterday see pg 138

1000 Construction Meeting Notes
- Attendees those w/ * on pg 144 plus
  - Todd Lewis MWH
  - Pete Vagt
  - Chris Daly
  - Jon Pohl
  - Kevin Adler EPA
  - Chad Bailey BVSPC
- H&S
  - Near Miss this AM. ECI hit buried elect. power lines on E. side of OFCA while digging FML anchor trench. No one hurt
  - ECI MAL had safety briefing yesterday
- GWTP
  Flow at 40 gpm while working on pump

JM Campbell

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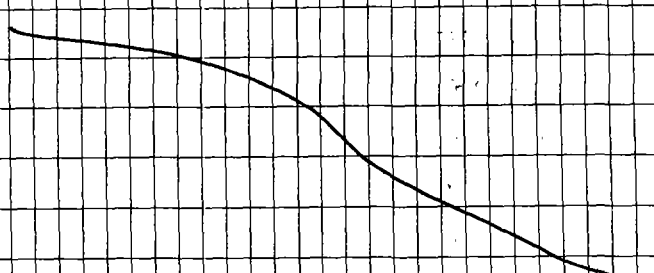
- Insulation of activated sludge tanks has been completed this week
- Heat exchanger ordered, ETA 6 weeks
- OFCA ISVE
  - Thermal oxidizer still shut down
  - Pump being fixed
  - Packing Mat'l being evaluated - new mat'l could take months to obtain
  - Will prob. order plastic for now
  - Duct work at metal fab. shop
  - Compliance sampling results appear OK
- OFCA Final Cover
  - Digging another Trench
  - Will survey seams & test locations.
  - liner test plot done yesterday - OK no damage
  - Placing liner @ ISVE well boots
  - Air monitoring at trench - No readings
  - Some locations on S & W, another trench is inside barrier wall. Mw to investigate & propose remedy
  - Also some locations on W. at trench clay only 3" thick & contains trash. Mw to investigate & respond.
  - Possible need for add'l grounding

Jm Campbell

of extraction well elect. boxes. Mw to assess & report.

- ONCA interim cover
  - Fence being installed around work area - Not complete yet
  - Hardhat contractor to mobilize next Monday. Kick off Mtg on Tue
  - Will start w/ buried pipings then place clay cover
- Look Ahead
  - Complete OFCA liner placement
  - Start placement of soil over liner
  - Start ONCA cover work
  - GWTP operate
  - Ground water & Private well Sampling

Completed @ 11:30 Am



Jm Campbell

(150)

09/10/02

6:23 ARRIVED ON Site @ the ACS GWTP.
Weather, Temp 71°F, Humid, Hazy.
Possible Rain in the After Noon.

Activities Today:
1. Quarterly Groundwater Sampling
2. OFFSite Cap
3. OnSite Grading and piping Orientation

There is two Groups of Groundwater Samplers.

The Following wells will be Sampled:

4X4 Team		Truck Team
MW23	ORC 103	MW11 ✓
MW52		MW17 ✓ Dup
MW53 ✓ Dup	(Misplaced)	MW28
MW42	MW51	MW54R
MW43	MW30	MW55
MW44	MW31	MW08
MW45		MW32
MW15		MW31
MW09R		MW56
MW29		MW19
MW14		MW06
MW48		MW10C
MW49		5 private wells
ORC 102		

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09/10/02

Present Today @ 6:45.

8:45

LEE CROSE	MWH Plant operation
Stela Williams	MWH Groundwater
Rudy Stiem	MWH Groundwater
Steve Palmer	ECI
Bob Page	ECI
Steve Lloyd	ECI
Mike McLaens	ECI
Greg Parrott	MAL
Crispin Sanchez	MAL
Julian Sanchez	MAL
Julio Rodrigues	MAL
Humberto OON 20102	MAL
Martin SERRATOSO	MAL
Roberto Perez	MAL
Miguel Sanchez	MAL
OSCAR Acevedo	MAL
JOSE LUIS NUNEZ	MAL
ARTURO GONZALES	MAL
Mike McDaniel	MAL
Eric Robertson	MAL
David Parham	MAL
CHAD Smith	MWH Groundwater
Lesi	MWH Groundwater

(152)

Check & Sealy 09/10/02

7:01 ARRIVED @ MW11 w/ Rudy & Stella
Setting up to pull Samples.
Asked Rudy about Changes to Groundwater protocol, No major Changes to protocal except shorter list of wells AND PARAMETERS.

7:19 9.55 ft Ground Water Depth (DTW) — Depth to water.
Note according to QAPP there are to let the well Equilibrate for 30 second before MEASUREING Ground-WATER.

Equipment USED:
Dedicated Teflon tubbing.
Grunt flow Pump
Grunt flow Controler (Redi flow)
Horiba U-22 flow through Cell
Horiba U22 :Water Quality unit.
HERON Depth Meter 150ft
12 Volt Battery
12 Volt inverter
Extension Cord
Pump Cable.
Purge Water Container
5 gallon Buckets.

(153)

Check & Sealy 09/10/02

Gloves - Nitrial
7:33 Picture 1 Roll 27 Facing East @ MW11 OF Rudy & Stella Pulling the Dedicated tubbing out to install the pump.
Pump was DECONED before mobilization.
7:38 STARTED Pumping MW11, water is A SAMON COLOR. Also started Taking Groundwater Parameters through the Horiba U-22.
PARAMETERS ARE checked IN intervals of 3-5 minutes.
7:59 9.93 DTW. During Pumping.

	pH	Cond	Turb	Do	Temp	ORP	Vol
8:16	5.88	33.7	8.00	0.0	16.4	82	4.4
8:19	5.89	33.7	7.93	0.0	16.6	83	4.6
8:21	5.90	33.7	1.30	0.0	16.7	82	4.7

8:21 Start Sampling MW11.
8:25 Picture 2 Roll 27 Facing Northwest @ MW11 of Rudy & Stella collecting a 40ml Vail for VOCs.
8:30 Left Rudy & Stella to Check on offsite activities.

154 [signature] 02/10/02

8:35 Stoped To Talk w/ ECI's Steve Palmer about the progress of the off Site Cap.
① Liner will be finished Today or tomorrow w/ Booties, and Testing
② Started placing Soil over the linear on the South End, KP Area.

8:54 Picture 3 Roll 27 Facing West @ South End of K.P. Area, of the anchor trench.

8:56 Picture 4 Roll 27 Facing North From the K.P. Area of ECI Push Sand out on to the Linear.

8:58 Picture 5 Roll 27 Facing East, South East in K.P. Area of Seam and Linear weld Juncture

9:00 Picture 6 Roll 27 Facing Sout East @ Extraction well 8 offsite Area SVE of the Boot, welled, Silicon, and Stainless Steel Banding.

9:02 Picture 7 Roll 27 Facing Southwest @ Extraction Vault manhole 13, of the Boot + Linear.

[signature] 02/10/02

9:13 Picture 8 VOID
Picture 9 Roll 27 Facing NW @ SVE well 24 of MAL Preparing the Joint from Linear to Boot for welding.

9:14 Picture 10 Roll 27 Facing SW @ SVE well 29 of MAL welding Seam of Linear to Boot.

9:20 Duneland Group Inc. Are Performing Survey on the off Site Area. (219) 926-1007.
Duneland is Shooting topo, Boots, Seams, Patches, Trench thickness Bedding (Sand, topsoil.)
Bob, w/ Duneland Survey.

9:30 Testing Engineer Are onsite performing Nuclear density Testing on the Sand or Root Zone.

9:36 Rudy and Steve are @ MW 17.

9:40 Return to GWTP, for the Safety Orientation for Hard Hat Contractor for onsite work.

(136)

Chad & Leslie 08/10/06

10:41 ARRIVED @ MW53 w/ Chad, & Leslie They have installed the pump and are take initial DTW 14.15 MW53 will Be Duplicate 95

11:10 6.60 2.93 17.8 0.0 13.08 95 1.8

11:13 6.60 3.02 13.3 0.0 13.09 97 2.0

11:16 6.61 3.05 10.3 0.0 13.07 98 2.2 @ Pump 10 ml/sec

11:18 Picture 11 Roll 27 Facing North @ MW53 of Chad & Leslie pulling a 40ml Vial for VOCs.

11:21 FINISHED Sampling,

11:51 Mobilized Back to GWTP To Dump Purge water. Rudy is off to well Near and @ IOC.

12:00 Chad and Leslie are Deconing the Pump & Equipment.

12:02 Picture 12 Roll 27 Facing East inside GWTP of Chad Deconing Equipment.

13:24 Picture 13 Roll 27 Facing North @ Offsite Area of EBX Loading Sand Material to Load the MFL.

13:31 ARRIVED @ MW30, Rudy & Stella are pulling PARAMETERS.

(137)

Chad & Leslie 08/10/06

	pH	Cond	Turb	Do	Temp	Orp	Vol
13:48	7.42	0.121	14.7	0.00	14.0	-166	3.1
13:51	7.42	0.121	14.2	0.00	14.2	-168	3.6

13:53 Start Sampling MW30.

13:57 Picture 14 Roll 27 Facing North MW30 of Rudy Labeling & Taging Samples.

13:58 Rudy & Stella are pulling off from MW30 and moving 50 feet to MW33 after Deconing.

14:00 Picture 15 Roll 27 Facing North @ MW30 of Rudy & Stella Pulling out the Groundflow Pump.

14:24 ARRIVED @ MW42. Chad & Leslie were Purging the well.

14:41 MW42 Sample Begins.

14:42 Picture 16 Roll 27 Facing Northwest @ MW42 of Chad & Leslie Sampling the well.

(158) TM Campbell

Sept 12, 2002 Thur

0815 Arrived at AES site

Weather Clear, Cool, Calm 70°F

Activities today

1. OFCA cap
2. ONCA cover
3. GW Sampling
4. Thermox repairs

Personnel On Site

Lee Grosz	MWH	Travis Illingsworth
Lesley Hierholzer	MWH	Stella Williams
Rudy Stern	MWH	Chad Smith
Tom Tenices	MWH	Rob Adams
Don Prevent	ECI	Steve Palmer
Steven Lloyd	ECI	Mike McLearly
Fred Doorn	Keldorn	Kent DeGrace
Doug Drinnan	Keldorn	
Mike Bristley	Austgen	Tim Kirkland
Daniel Petrich	HHSI	John McDonough
Scott Blount	Vidimos	Vic Rachford
Peter Vagt	MWH	
Prabhakar Kasarabada	IDEM	
Mik Chencweth	Simalabs	

(159)

9/12/02 TM Campbell

0910 Visit OFCA - Sand had been placed in South KP Area in vicinity of ISVE wells

0915 Photo 17 Roll 27 Looking North showing Weld of FML liner to FML in slab of ISVE blower shed @ SW corner Note Seam & patch welds

0920 Photo 18, Roll 27 Looking N. showing welded FML boot at ISVE well 15

0925 Photo 19, Roll 27 Looking N. Showing boot around EW 13A Manhole

0930 Photo 20, Roll 27 Looking NW at FML Anchor trench on W side, S of Piez 116, Showing Automobile Shock absorber in outer wall of anchor trench

0932 Photo 21, Roll 27 Looking NE showing FML & ISVE OFCA blower Shed

0935 Photo 22, Roll 27 Looking W Showing Spreading of Sand Cap over FML in KP area

0940 ECI Equipment

JD 750C Dozer
Gehl 6635 Skid Steer loader
Komatsu WA180 Front End loader
Volvo A25C Dump truck
CAT 345B Excavator

(160) 9/12/02 JM Canyhey

0945 Photo 23, Roll 27 Looking S Showing backfilled East Anchor trench
10:00 On Site Const mtg
~~11:05~~ - See Notes Later
11:30 Visit OFCA w/ Peter Vogt & Prabhakar Kesarabula
12:30 Lunch
1:30 Visit ONCA excavation area
1:35 Photo 24, Roll 27 Looking E Showing Hardhat equipment excavating soil near ACS bldg Operators voluntarily using respirators but air measurements don't require it
02:05 Photo 25, Roll 27 Looking SW at ONCA Showing prior PCB excav. Soil storage area. Showing Conc. slab rubble been ~~[illegible]~~ removed for ONCA cover const.
02:15 Photo 26, Roll 27 Looking NW Showing new hastelloy sleeve insert welded into air influent port of Thermal oxidizer
02:45 Photo 27, Roll 27 Looking NW Showing Rudy & Stata Sampling Res. well C Parameters prior to Sampling
02:45 pH 6.86 Cond = 764 ; Turb = 5.9 ; DO = 0.0
Temp = 16.3°C ; ORP = -162 C 500 ml/min for 20 min.

CURVE TABLES

HOW TO USE CURVE TABLES

Table I. contains Tangents and Externals to a 1° curve. Tan. and Ext. to any other radius may be found nearly enough, by dividing the Tan. or Ext. opposite the given Central Angle by the given degree of curve.

To find Deg. of Curve, having the Central Angle and Tangent: Divide Tan. opposite the given Central Angle by the given Tangent.

To find Deg. of Curve, having the Central Angle and External: Divide Ext. opposite the given Central Angle by the given External.

To find Nat. Tan. and Nat. Ex. Sec. for any angle by Table I.: Tan. or Ext. of twice the given angle divided by the radius of a 1° curve will be the Nat. Tan. or Nat. Ex. Sec.

EXAMPLE

Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P. = 23° 20′ to the R. at Station 542 + 72.

Ext. in Tab. I opposite 23° 20′ = 120.87
120.87 ÷ 12 = 10.07. Say a 10° Curve.

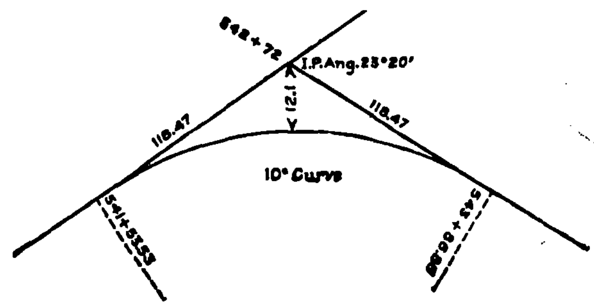
Tan. in Tab. I opp. 23° 20′ = 1183.1
1183.1 ÷ 10 = 118.31.

Correction for A. 23° 20′ for a 10° Cur. = 0.16
118.31 + 0.16 = 118.47 = corrected Tangent.

(If corrected Ext. is required find in same way)
Ang. 23° 20′ = 23.33° ÷ 10 = 2.3333 = L. C.

2° 19½′ = def. for sta.	542	I. P.	= sta.	542 + 72
4° 49½′ = " " "	+50	Tan.	=	1 .18.47
7° 19½′ = " " "	543	B. C.	= sta.	541 + 53.53
9° 49½′ = " " "	+50	L. C.	=	2 .33.33
11° 40′ = " " "	543 + 86.86	E. C.	= Sta.	543 + 86.86

100 − 53.53 = 46.47 × 3′(def. for 1 ft. of 10° Cur.) = 139.41′ = 2° 19½′ = def. for sta. 542.
Def. for 50 ft. = 2° 30′ for a 10° Curve.
Def. for 36.86 ft. = 1° 50½′ for a 10° Curve.



CONTENTS

PAGE NO.	REFERENCE	DATE

Jim Campbell (1)

Sept 12, 2002

03:00pm Photo 1 Roll 28 Looking SW showing ECP Dumping root zone mat'l along E side of OFCA Engineered Cap.

0320 Photo 2 Roll 28 Looking NW at empty OFCA drainage pond

0321 Photo 3 Roll 28 Looking SE showing NW Corner of cracker trench

0333 Scott McManus - K&S Engineer on site to take density test of OFCA root Zone Material that failed yesterday

0340 Photo 4 Roll 28 looking E showing preparation for retest of density at Test 5

Dry density 115.9 pcf = 106% comp 4.9% moist.
~~Max dry density~~ = 109 pcf @ 11% moist = Proctor

Retest 117 pcf, 5.4% moist

0345 Test 7 location from failed yesterday - retest today

Dry density 107.3 pcf 8.5% mc

0350 Test 6 location - failed yesterday retest today

density = 119.5 pcf 109.6% Comp 6.8% MC 7.6%

0356 All Failed Moisture Content

0355 Test 9 location new

density 114.5 105.0% Comp MC = 8.4%

0420 Photo 5 Roll 28 Looking E on ONCA showing excavation for at edge for cover adjacent to process bldg & RR track.

10'00 Construction Mtg. Notes

- Attendees:

Lee Orosz	MWH	Tom Tinics
Peter Vagt	MWH	Rob Adams
Travis Klingforth	MWH	Chad Smith
John McDonough	Hardhat	
Steve Palmer	ECI	
Prabhakar Kasaraveda	IDEM	
Larry Campbell	BVSPC	
Kevin Adler	EPA	(Phone)
Todd Lewis	MWH	"
Chris Daly	"	"
Jon Pohl	"	"

- Groundwater Monitoring
  Water levels collected on Monday. No problems. WL ± 1' lower than last time
  Sampling 28 MW, 2 ORC wells & 5 Res wells
  All will be completed today except 2 Res wells (Residents not home for access)
  Res Well PW A (house on fire - structure closed) so will sample from another house
  Analyzing for VOCs only - Next sampling in March will be full round w/ full scan
- H&S
  - Hardhat H&S orientation was Tuesday
    Also had Aes H&S orientation

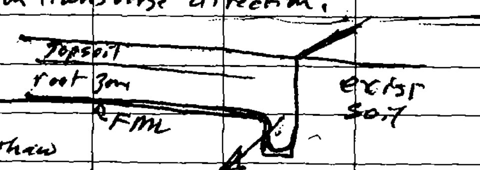
Hardhat operators are voluntary wearing in respirators, but haven't found air contamination requires it.
- No H&S issues on FML liner crew
- Victimas will be inside ISWE Thermoplex unit welding - Permitted Confined space.

- GWTP
  Mostly maintenance activities all week except 6 hr yesterday. Otherwise plant not operating
- OFCA Final CAP
  - MAL completed FML on Tues 9/10
  - All seam tests passed. They were surveyed
  - ECI started placing root zone material Will place all on site Mat'l today. Will start importing root zone mat'l tomorrow
  - Have done dust control & density testing
  - Will have flagmen on Old Fox Ave. to control imported truck traffic
- Elect. power to blower shed turned on Tues.
- Campbell noted that various debris on FML needs to be removed prior to placement of root zone Mat'l
- Rob OFCA Final Cap issues
  Rob Adams reported on solution to

(4) 9/12/02 JM Campbell

A number of issues identified last Const. Mtg on 9/5/02

- Austgen concurred that extraction wells were properly grounded per code
- Portion of damaged liner in S.W. Barrier Wall was v. minor & didn't extend deeper than prev. observed
- Anchor Trench for FML on S & W sides was determined to be over or outside of barrier wall line
- Edge of FML abutting existing cover should drain in transverse direction.



So Freeze-thaw at this location s/b minimal. Also the FML material is more flexible than HDPE

- MWH will document above issues in meeting notes.

• ONCA Interim Cover
- Hard Hat mobilized Tues 9/10 & had MWH & ACS safety Briefing
- Started intensive trenching on 9/11 Work Plan is being finalized to & will then be distributed
- MWH completed ONCA fencing
- Hardhat doing air monitoring w/ MWH spot checking results.
- Hard Hat operators are voluntarily working in Level C respirators.
- Will continue subgrade preparation & begin piping installation

• ISVE System
- Down for 4th week. Inlet ducting has been repaired & returned to site Repaired using hastelloy not stainless steel
- Vidimus onsite welding hastelloy sleeve in inlet opening - this requires confined space entry work.
- New plastic packing mat'l s/b arriving by late next week
- Install new higher grade gasket matt
- Pump has been repaired - return tomorrow install next week
- Possibly restart unit late next week

• Look Ahead
GWTP - Full opns OFCA Complete mtgame - Start Topsoil
ONCA - Site prep. Cont'd pipe install
ISVE Complete repair & restart.

1105 Mtg over

JMC

(5) 9/12/02 JM Campbell

(6)

9/17/02 Leigh S Peters

0730 Arrive On-site, P. Cloudy, 65°F, forecast for 80°F, very little SW wind

Personnel Present:

Travis Klingforth	MWH
Lee Crosz	MWH
Steven Lloyd	ECI
Mike McKearns	ECI
Bob Page	ECI
Steve Palmer	ECI
Fred Doerr	Keldorn
Doug Drinnan	Keldorn
Kent Dehrant	Keldorn
Tom Evans	Ryan
Dan Petrich	HHSI
John McDonough	HHSI
Leigh Peters	BVSPC

0745 Spoke with T. Klingforth regarding site activities and Hard Hat's H+S. He reported HHSI working on perimeter trench + operators wearing half face respirators. To upgrade to full face when PID readings sustained over 10ppm. HHSI to work near railroad tracks today. MWH performing perimeter air monitoring. HHSI to pressure test piping insections, uncovered

Leigh S Peters

(7)

9/17/02 Leigh S Peters

ECI installing off-site RZM starting Friday. Off-site RZM is clayey from Merrillville. MWH reported ECI not meeting 5-day exposure requirement of liner and requested letter from Polyflex certifying condition of liner maintains integrity. H+S on-site performing testing. MWH decided to record moisture on sand, but only require compaction requirements in specifications as long as sand placed wet. Off-site RZM, meeting moisture proctor of 17-5%, but not getting compaction - avg of 84-87% compaction because of equipment limits on liner. MWH reduced compaction requirements from 90% to 80% - provided material is moist and firmly placed. T. Klingforth reported that debris zone observed and less than 12-inches of clay were outside of the barrier wall. MWH to confirm liner placement with regards to barrier wall after receipt of DG survey. Concern over freeze thaw researched back to 80% design - MWH expect minimal differential settlement and VFPE more flexible at low temps.

Leigh S Peters

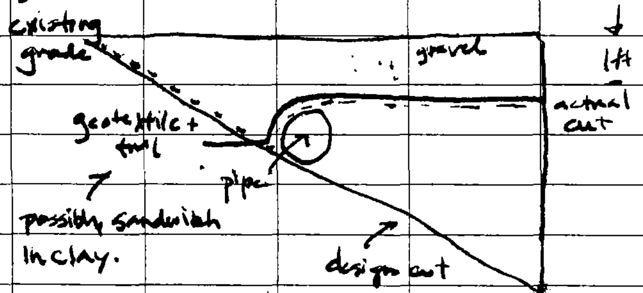
9/17/02 [signature]

Scrubber to return on-line this week with temporary packing. Vidimus completed work. T. Klingforth reported that ECI does not have flagman but posted signs warning of truck enterance.

0845 Walked ONCA area with T. Klingforth and observed HHSI perform grading activities around railroad tracks. HHSI scheduled surveyors to delineate piping on Thursday.

0910 Roll 28 photo 6 facing southwest showing HHSI excavating trench along ONCA RR tracks

0915 T. Klingforth reported MWH revised cover in North portion of ONCA cover where ACS storm sewer crosses into cover. MWH reduced cut, to cover with FML, geotextile fabric and gravel to form subbase for asphalt.



9/17/02 [signature]

0930 Went to OFCA to observe ECI

0935 Roll 28 Photo 7 facing northwest of OFCA.

0940 Roll 28 Photo 8 of SRE 32 boot w/ sandbags placed around boots to minimize any fluctuations in liner due to weather until covered.

0945 Observed concrete in material unloaded onto cover. T. Klingforth reported ECI is sorting material as it is pushed onto liner.

0950 Roll 28 Photo 9 facing east of ECI removing concrete from off-site RZM.
T. Klingforth reported that the RZM and 6-inch of topsoil will be maintained over the anchor trench and will then feather out into non-FML cover areas.

0955 Roll 28 Photo 10 facing south showing northwest corner of anchor trench, not filled with soils yet. Water ponding in trench.
Observed debris, water bottles in western portion of anchor trench. Will ask MWH about this and whether it will be removed. Also observed P116 looks slightly bent.

1005 KTS testing on-site. Collecting sample every 5,000 cy to run proctor and moisture content. OMC 17.5, Proctor 107.5 for off-site RZM.

9/17/02 Jeff Peters

1025 Spoke w T. Kingforth - MWH suspect that TP P116 was pulled out of place by liner. He reported C. Smith + R Stein inspected last week + found no damage. MWH expects to straighten the piezometer when concrete ring placed around it.

1030 K+S collected sample 22 of H2M, testing equipment not working. To return with new equipment.

1055 Returned to ONCA and observed HHSI complete trenching along RR tracks to the gravel road.

1100 Roll 28 Photo 11 facing northwest of HHSI excavating

1115 HHSI reported PID readings of 0.1 - 0.3 ppm with spikes up to 40 ppm directly at ground when excavated. MWH performing perimeter monitoring

1130 HHSI completed cutting perimeter of ONCA except for access road. Will begin rolling subgrade. HHSI reported that it pulled Drager tubes w/ 0 result for carbon tetrachloride and between 1 and 5 ppm for trichloroethane.

1200 Left site for lunch

1230 Return to site. MWH preparing for Residential well sampling. MWH also restarting scrubber and bringing thermox up to temp. Temporary plastic packing put in scrubber tower

9/17/02 Jeff Peters

1245 Roll 28 Photo 12 facing south of replacement flanges installed on scrubber.
MWH still waiting on replacement parts for flowmeter.

1315 Spoke with Larry Campbell. Will further discuss P116 with MWH

1345 Roll 28 Photo 13 facing North of P116 bent towards the east.
Observed P112 has no cap. To point out to MWH.

1400 Returned to ONCA and observed HHSI finish cuts and grade area. MWH and HHSI installing rope along RR tracks instead of fencing to delineate work area.

1420 Observed MWH sample PW-D pH: 6.74 Cond: 76.2, turbidity: 10.7 DO: 0.00 Temp: 15.3 ORP: -141 Vol: 4.4
Collected VOCs, Metals, Cyanide, SVOCs, Pest/PCBs in this order. Also collected duplicate sample.

1450 Observed sampling at PW-Y. MWH collecting MS/MSD at this well. Stabilized parameters: 1520: pH: 7.10 Cond: 75.3, Turbidity 9.5 DO: 0.05 Temp: 18.8 ORP: -172 Vol: 3.0

Jeff Peters

(12)

9/17/02

flow: 40 mL in 6 sec. MWH to finish residential well sampling today. I told C. Smith that P112 was missing cap. He reported that he would cap P112

1530 Roll 28 Photo 14 facing east of MWH collecting metals sample at PW-Y.

1540 Spoke with T. Klingforth and reminded him that ECI needs to be notified of SVE wells on line. Also talked about P116, to have resolved thursday.

1550 Left site for day

9/17/02

(13)

9/19/02

0655 Arrive on site, cloudy, 75°F. Moderate wind from Southeast

Personnel Present:

* Lee Orosz	MWH
Steven Lloyd	ECI
Mike McGarrr	ECI
* Steve Palmer	ECI
Bob Page	ECI
* Leigh Peters	BVSPC

L. Orosz reported thermox not operating properly - does not heat to operating temp. Ryal to be on-site today to investigate intake

0710 Observed ECI continue to place off-site root zone material over OFCA FILL

0720 Roll 28 Photo 15 facing southwest at ECI placing root zone material on FILL. working north of blower shed.

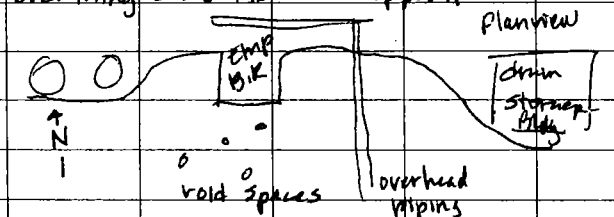
0730 Spoke with Steve Palmer, he reported root zone material will be placed within 2-3 days, then proceed with topsoil. DG surveyors to be on-site today. K+S testing on yesterday, tested area south of blower shed moisture high around 20%, compaction at 92%. ECI to let area dry out and retest. K+S to return to site tomorrow.

9/19/02

0755 Spoke with T. Klingforth, HHSI and Area Survey. HHSI rolled subbase yesterday and Area Survey to shoot coordinates for conveyance piping today. HHSI to decon equipment today - roller and tracks. HHSI to trench with bobcat and does not expect to upgrade to level B, bobcat operator to use respirator and will upgrade based on air monitoring levels

0810 Walked on-site area. HHSI pointed out several voids found in subgrade where former ACS road was. Some debris observed

0825 Roll 18 Photos 15 + 16 facing north at ground near ACS employee breakroom of voids
Roll 18 Photo 17 facing north at debris and voids in subbase
PID readings in voids around 10 ppm, but breathing zone PID at 0.1 ppm.



HHSI also reported that it removed some drum debris in preparing subgrade that was buried on western portion of ONCA cover

9/19/02

walked perimeter of ONCA

0845 Roll 26 Photo 18 facing northeast of ACS storm drain and area of re-grading cut as shown on pg 8.

0920 Spoke with T. Lewis regarding thermox - he reported that max temp obtained yesterday was only 850°F. Ryan found that a valve was not activating properly and repaired it. Thermox should come up to temp now. Currently at 750°F. Scrubber temp 117. MWH reported tuesday that the max temp for temporary packing was 190°F. High temp limit for scrubber set at 160°F.

0935 Reviewed RFB for ONCA ISVE wells.

1000 Weekly construction meeting:
Attendees - (* on previous) plus

Todd Lewis	MWH	
Tom Timics	MWH	
Rob Adams	MWH	
Travis Klingforth	MWH	
Peter Vagt	MWH	
John McDonough	HHSI	
Chris Daly	MWH	via phone
Chad Smith	MWH	via phone
Mark Travers	Environ	via phone

9/19/02

H+S: evaluated security of HHSI gates. No sustained elevated PID readings at ONCA for level C upgrade. ~~0~~ No H+S incidents, MWH had site wide H+S meeting 2 weeks ago. MWH trying to hold H+S mtgs individually.

GWTP: 45 gpm completed maintenance last thursday. Still performing minor maintenance while operating. MWH working on heat exchanger design

OFCA ISVE: repairs complete tuesday. Valve not functioning - fixed this morning. System coming up to temp to operate this afternoon. To operate through weekend - scheduled inspection of unit in 2-4 weeks.

OFCA cover: ECI importing root zone to be finished monday. 75% complete. Proceed to bring in top soil. ECI sweeping Colfax. MWH requirements of Root zone is minimum 80% compaction.

ONCA: subbase complete. will fill void areas with pea gravel. Modified cover near storm drains. MWH to send out new detail. HASI to start trenching next week. MWH to send out HHSI's plans tomorrow

9/19/02

GW Monitoring: MWH resampled residential wells on tuesday. MWH to sample wells that samples were not delivered on-time on Monday of next week. MWH inspected P11b, found piezometer intact. S. Palmer reported piezometer straighter today and straightening will not affect liner. L Drose to replace missing caps to piezometers this week.

Look Ahead: H+S: Trenching for HHSI and air monitoring. MWH to monitor around OFCA ISVE and coordinate with ECI. MWH to post signs on hot areas of scrubber where no heat shielding.

Next meeting 9/26/02 @ 10 00

10 50 Mtg Conclude. write up minutes.

11 45 Walked ONCA with MWH and HHSI observed + discussed storm piping + capping pipe off of storm drain. Also MWH discussed grades with HHSI. Grades near storm drains by RR tracks will benchat drain to ensure stormwater will not flood tracks.

11 50 Went to OFCA. Began raining with lightening and thunderstorms. ECI reported that it will stop having material delivered to site because

(18)

9/19/02

of the rain

1200-1230 Lunch. Returned to site, stopped raining. Continued review of MWH documents. Completed review of ONEA ISVE well RSB

1350 Spoke with T. Klingforth, EC1 off-site for day because of weather. Area survey continuing on ONEA area

1410 observed MWH calibrate probe pH for scrubber and bring scrubber to operation

1430 Left Site for day

9/19/02

(19)

9/24/02

0620 Arrive on site. Mild 40s°F. Forecast mid 60°F Partly Cloudy, Light Wind from Southeast Reviewed HHSI Work Plan, CQAP and HASP

0645 Spoke with T. Klingforth of ~~MWH~~ MWH. He reported EC1 continues to import Root Zone material. Did not work thurs. afternoon and Friday. KFS testing to be on-site around 0900. One for material around 21%. EC1 to seed by end of week, early next week. HHSI trenched near piping from GWTP yesterday. Piping crew on-site yesterday. T. Klingforth reported MWH had HASP mtg for crew yesterday. HHSI damaged catch basin piping yesterday to repair next few days. T Klingforth reported HHSI excavating on fill, no PID detections observed.

0715 Observed HHSI conduct tailgate HASP mtg. Dan Patrick discussed underground utilities and trenching. HHSI to connect to piping from GWTP this week and fix stormwater piping today.

0725 Personnel On-Site:

Lee Cross	MWH	Steve Palmer	EC1
Steven Lloyd	EC1	Bob Page	EC1
Mike Medeiros	EC1	T. Klingforth	MWH
Leigh Peters	BVSPC	Dan Patrick	HHSI

9/24/02 Zeff Eaton

Fred Doorn HHS1 Mike Petrich HHS1
Tyron McCollough HHS1 Terrence Jones HHS1
Todd Lewis MWH

0730 Spoke with T. Lewis. Thermox at temp last night, but MWH didn't want to leave it operating on its own - MWH shut down, bringup to temp this morning for observation.

0740 Roll 28 Photo 19 facing south of damaged stormwater piping located east of HDPE stickups

0745 Roll 28 Photo 20 facing southeast of HDPE piping to be connected for ONCA SVE system.

0805 Roll 28 Photo 21 facing east showing HHS1 removing soil from trench for ~~pipping~~ JP piping

0870 Concerns raised by HHS1 - running 2" + 3" water conveyance piping over 2 - 18" ϕ storm water piping and sanitary. Option to put cover over area to ensure 32" of protection for freeze. 2 - 18" ϕ piping are 30 in and 24 in below existing ground elevation. MWH decided to run HDPE over the storm water piping and slope down to just over sanitary line. T. Tinnes reported that the lines will not have a low spot. MWH to run 8-inch HDPE over piping and 2, 3" ϕ HDPE under

9/24/02 Zeff Eaton

the 18 inch ϕ stormwater. HHS1 to remove more cover over piping for welding

0920 Went to OFCA, K+S testing onsite, 80 % compaction requirement, max density 107.5 pf moisture 17.5 %, requirement of -1 % OMC to +2 % OMC K+S also performing cone test midway between pl 3 and SVE 7.

0930 Roll 28 Photo 22 facing west of K+S performing cone test

0935 Southern ½ of OFCA RZM is onsite sand, Membrane material placed to 100 ft north of blower shed. remaining RZM is from Griffith source. MWH to delineate in CQA. Areas have different proctors

0940 S. Palmer reported EGI to fill western trench this afternoon. EGI expects to start bringing in topsoil Thursday

0945 Location 22: 85.5 % compaction, 20.5 % moisture at 8" depth. Location 23, compaction 90.5 moisture 21.1 %

0950 Roll 28 Photo 23 facing north of Pl 16, after fill placed around it.

1600 Roll 28 Photo 24 facing southeast at NW corner of FML area and fill.

1035 Roll 28 Photo 25 facing southeast of HHS1 fusion welding 8" ϕ HDPE water conveyance

9/24/02

line underneath the stormwater line

1040 Observed some damage to exterior of corrugated stormwater piping. HHSI reported earlier that there is an internal separate pipe to corrugated portion which is not damaged.

1110 Went to OFCA, T. Klingforth reported K+S collected second sample from Griffith material for Proctor tests. He also reported field results today inconsistent than previous material.

1120 Observed HHSI begin trenching into fire pond area

1200 - 1230 Lunch

1245 Observed ECI grade and place fill over OFCA EML.

1340 Observed HHSI continue to trench and place piping. HHSI to place piping east of elevated process pipes today.

1400 Roll 28 Photo 26 facing southeast showing HHSI place sand bedding into trench.

1440 HHSI ceased trenching for day. To lay bedding + pipe and repair storm water piping. PID spike at 17ppm, maintained 0.2-0.4 at trench

1445 Left site for day

9/26/02

0700 Arrive On-site. 45°F. Clear and sunny - forecast 75°F. no wind.

Personnel Present:

X	Lee Orosz	MWH
	Steve Palmer	ECI
	Bob Page	ECI
	Steven Lloyd	ECI
	Mike Medvecins	ECI
	Dan Petrich	HHSI
	Tyron McCullough	HHSI
	Terrence Jones	HHSI
X	Leigh Peters	BUSPC

0705 L. Orosz reported MWH began operating the OFCA VSVE system last afternoon and it ran through the night pulling vapors from OFCA. Burner temp: 1650 F, scrubber temp: 156°F; pH = 8.59, conductivity 33.45 mS/cm MWH installed flowmeter for primary quench and tarp liner. I notice that MWH has not installed signs to warn of high temperatures in place of heat shielding to bring up not meeting

0720 Went to OFCA, observed ECI spreading topsoil

0725 Roll 29 Photo 1 facing south of ECI spreading topsoil in K-P area

0730 Roll 29 Photo 2 facing south showing W Another

9/26/02

trench, partially backfilled, sandbag and insufficient rootzone material to cover liner near EW13

Walked along W trench, majority filled in, some low spots and areas where liner is exposed

0735 Roll 28 LP Photo 3 facing south of rootzone material over FML

0750 T. Klingforth reported ECI not meeting moisture, to add water - GWTP effluent and work in by aerating. ECI not to disc because of liner. K+S to be on-site today. T. Klingforth also reported ECI not finished with west trench. L. Prose reported ACS excavating and broke MWH's 2" inch ϕ HDPE EW line on ONCA. MWH shut down EW10, EW17, EW18 yesterday evening, 30 gpm were being pumped from ONCA. HHSI to pressure test today. Installed 6 times to trench B. to install 2 - 8-inch ϕ HDPE vapor lines tomorrow. NO trenching anticipated for rest of week. HHSI readings around 0.9 to 1.2 ppm during trenching. Asked T. Klingforth about sand source - he didn't know and doesn't have analyticals showing clean.

0810 Roll 29 Photo 4 facing southeast of repaired 18" storm piping and installed HDPE piping. HHSI laid 250 ft of piping, backfilling with sand prior to pressure testing

9/26/02

0845 Spoke with T. Tinics regarding ISVE System on around 9am on 9/25/02. Control screen in blower shed down. Pulling from 19 wells, all balanced, dilution air valve open 3/4. approx 4 in wtr. Analytech inspected blower shed screen and ordered replacement. Scrubber high temp at 170°F.

0910 Roll 29 Photo 5 facing SW of HHSI working on ONCA. T. Tinics not wearing protective booties within exclusion area. Note stockpiles of excavated material. HHSI fabricating stickups for piping at shed. Questioned T. Tinics about booties. He stated that he didn't walk into any obvious contaminated areas and also asked how it differs from walking around 2 weeks ago. Also said he does have disposable boots. I told him that if MWH or HHSI is going to require booties that it should be followed. Also set an example for employees. He agreed.

0915 Roll 29 Photo 6 facing east of damaged piping to GWTP. ACS trenched to expose water main in order to install hydrant.

1000 Weekly Construction Meeting:

Attendees - * on previous plus:

T. Tinics MWH T. Klingforth MWH

Jeff Peters

Jon Pohl MWH Rob Adam

Via Phone:

Kevin Adler EPA Todd Lewis MWH

Peter Vagt MWH Chris Daly MWH

John Mc Donough HHSI

H+S: no issues or incidents. ACS damaged ONCA GW piping + repairing today. MWH monitored temp of ISVE ducting after grinder bar, temp 140°F - MWH reported that it does not need placarding.

GWTP: was at 45 gpm until ACS damaged pipe. Now pumping 15 gpm. 3-4 weeks for heat exchanger

ISVE: Op yesterday - 19 wells on line. Off-gas sampling today by Sierralabs. ECI damaged SVE-38 - to replace riser and repair boot. Do not feel that liner damaged

OFCA: Completed Root zone placement. Began placing topsoil in areas that passed. ECI to add water on remaining areas. Topsoil to place by mid next week and seed. MWH to discuss seeding time frame with ECI OFCA maintenance, ponding to be addressed after ECI is finished. to demob by next Fri

ONCA: Submittals in except for stone

Jeff Peters

Jeff Peters

9/26/02

HHSI to continue weld + pressure test this week. To trench next week to and bring in clays. BLA temporarily scheduled for 10/14. MWH will coord w/ HHSI + BLA

GW sampling: completed on Monday.

Look Ahead: GWTP, ISVE op, HHSI test + clays, ECI complete OFCA.

H+S: Concern with replacement of SVE-38 - ECI to don respirators + MWH to operate well. Future coord with BLA + HHSI

1050 Mtg Concluded. Next Meeting 10/3/02. Verbal notes. Asked J. Pohl questions of HHSI. - MWH to submit HHSI specs. Sand from quarry - HHS conducted grain size test but no analytical's were required by MWH. MWH will perform geotechnical testing.

1125 Roll 29 Photo 7 facing south at ECI watering road for dust control.

1130 Roll 29 Photo 8 facing north at SVE-38 damage T. Kingsforth reported SVE 38 clipped by dozer blade + punctured hole 2-inches above threads. ECI to cut liner level at threads + reseal will inspect down to liner to ensure no damage MWH to probe out well before ECI leaves site.

1205 Roll 29 photo 9 facing west at ground showing repair to HDPE pipe to GWTP

Jeff Peters

(28)

Leigh E Peters

9/26/02

1310 Roll 29 Photo 10 facing northwest of P39

1220 - 1250 Lunch

1300 - 1325 Spoke with Lmc and updated on site activities.

1330 Roll 29 Photo 11 facing south west of ONCA ISVE piping stickup for blower shed
Roll 29 Photo 12 facing west of trench with sand bags over piping for testing

1345 Roll 29 Photo 13 facing S at ground of product from buried drum that was spattered during rain last Thursday. PID reading in void was 375ppm. no elevated readings in breathing zone.

1350 Roll 29 Photo 14 facing southwest of debris removed from trenching ONCA.

1400 Observed HHSI pressure test lines. Started with #19, pressurized to 90 psi for 15 min., Threaded cap at end of piping - loss of 0.5 psi total.

1435 Roll 29 Photo 15 facing east of HHSI pressure testing line)

1450 Roll 29 Photo 16 facing north of ECI discing roadzone material.

1500 Left Site for day

Leigh E Peters
9/26/02

(29)

Leigh E Peters

10/2/02

0710 Arrive on-site, 70°F, P. Cloudy, light rain, SW wind. MWH not on-site to open gates. HHSI and ECI personnel at site waiting. Began review of documents.

0730 MWH on-site - Personnel On site:

Tom Tinlos	MWH
Steven Lloyd	ECI
Mike Medearis	ECI
Bobb Page	ECI
Steve Palmer	ECI
Mike Petrich	HHSI
Tyron McCollough	HHSI
Terrance Jones	HHSI
Leigh Peters	BRSI

0740 Spoke with T. Tinlos. Activities for today:
① ONCA SBPA ISVE piping + pressure test
② OFDA topsoil + road
T. Tinlos reported that the ISVE system went down on Friday evening - MWH suspects scrubber temp exceeded. MWH inspected nozzles yesterday and shut system down. MWH and ECI inspected SVE-3B, removed boot observed riser was bent - riser pipe connected to screen. MWH pulled vacuum on it from blower shed and lid

Leigh E Peters

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #1
Date: 09-04-02 Time: 09:16
Photographer: Chad Gailey
Description: Photo facing south of the anchor trench for the FML at the southwest corner of the OFCA.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #2
Date: 09-04-02 Time: 09:16
Photographer: Chad Gailey
Description: Photo facing south showing the anchor trench for the FML at the southwest corner of the OFCA.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #3
Date: 09-04-02 Time: 09:46
Photographer: Chad Gailey
Description: Photo facing north showing the well control panel at OFCA extraction well EW-20. Concern was raised with respect to the grounding of the panel.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #4
Date: 09-04-02 Time: 09:54
Photographer: Chad Gailey
Description: Photo facing northeast of MAL filling sandbags and preparing to start deploying the FML.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #5
Date: 09-04-02 Time: 12:13
Photographer: Chad Gailey
Description: Photo facing east showing the test pad for the FML and ECI compacting the root zone material with the dozer.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #6
Date: 09-04-02 Time: 13:49
Photographer: Chad Gailey
Description: Photo facing northwest near the west side of the OFCA anchor trench looking at ground and debris that was encountered during trenching activities.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #7
Date: 09-0402 Time: 13:55
Photographer: Chad Gailey
Description: Photo facing north showing ECI excavating through the buried debris at the anchor trench located on the west side of the OFCA.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #8
Date: 09-04-02 Time: 13:58
Photographer: Chad Gailey
Description: Photo facing north showing ECI trenching in line with the staked boundary of the FML at the west side of the OFCA anchor trench .

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #9
Date: 09-04-02 Time: 15:48
Photographer: Chad Gailey
Description: Photo facing west showing ECI placing clay in low areas on the Kapica-Pazmey portion of the OFCA.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #10
Date: 09-04-02 Time: 08:15
Photographer: Chad Gailey
Description: Photo facing north at the western anchor trench showing ECI excavating near the boundary of the barrier wall.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #11
Date: 09-05-02 Time: 08:35
Photographer: Larry Campbell
Description: Photo facing southwest showing MAL placing FML over OFCA ISVE well SVE-05.

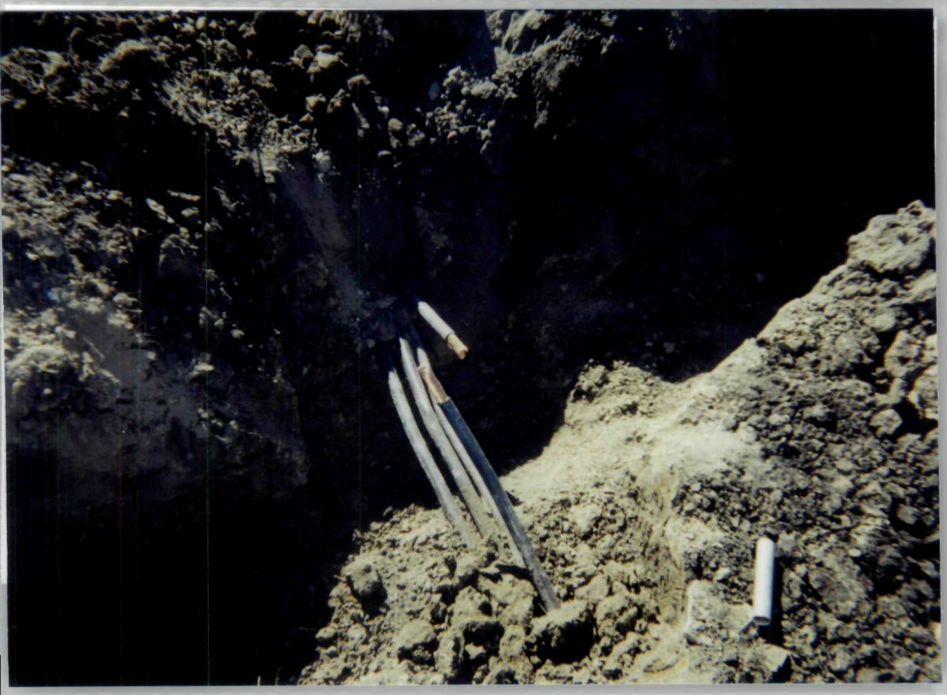
Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #12
Date: 09-05-02 Time: 08:40
Photographer: Larry Campbell
Description: Photo facing southwest showing the FML placed over OFCA ISVE well SVE-05.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #13
Date: 09-05-02 Time: 08:45
Photographer: Larry Campbell
Description: Photo facing east showing cut in the FML for placement over SVE wells. Area will be patched after placement.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #14
Date: 09-05-02 Time: 09:15
Photographer: Larry Campbell
Description: Photo facing west showing MAL seaming the first and second strips of liner near the western portion of the OFCA.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #15
Date: 09-05-02 Time: 09:15
Photographer: Larry Campbell
Description: Photo facing west showing the FML installed in the south anchor trench prior to backfill.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #16
Date: 09-05-02 Time: 09:45
Photographer: Larry Campbell
Description: Photo facing south showing MAL pressure testing the welded seams on the FML.



Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #17
Date: 09-05-02 Time: 09:50
Photographer: Larry Campbell
Description: Photo facing southeast at ground showing the electrical lines damaged by ECI's backhoe during trenching activities for the eastern anchor trench.

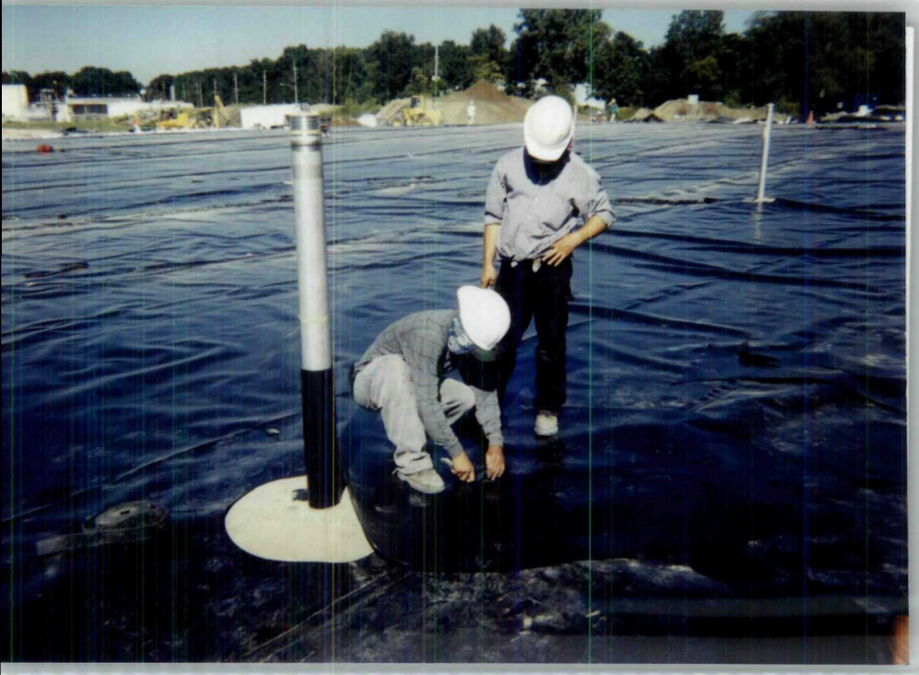
Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #18
Date: 09-05-02 Time: 12:05
Photographer: Larry Campbell
Description: Photo facing southeast at ground showing the repaired electrical lines in the eastern anchor trench.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #19
Date: 09-05-02 Time: 13:40
Photographer: Larry Campbell
Description: Photo facing west showing MAL pick up a roll of the FML for placement on the OFCA.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #20
Date: 09-05-02 Time: 14:10
Photographer: Larry Campbell
Description: Photo facing south showing the exposed liner from the test fill.

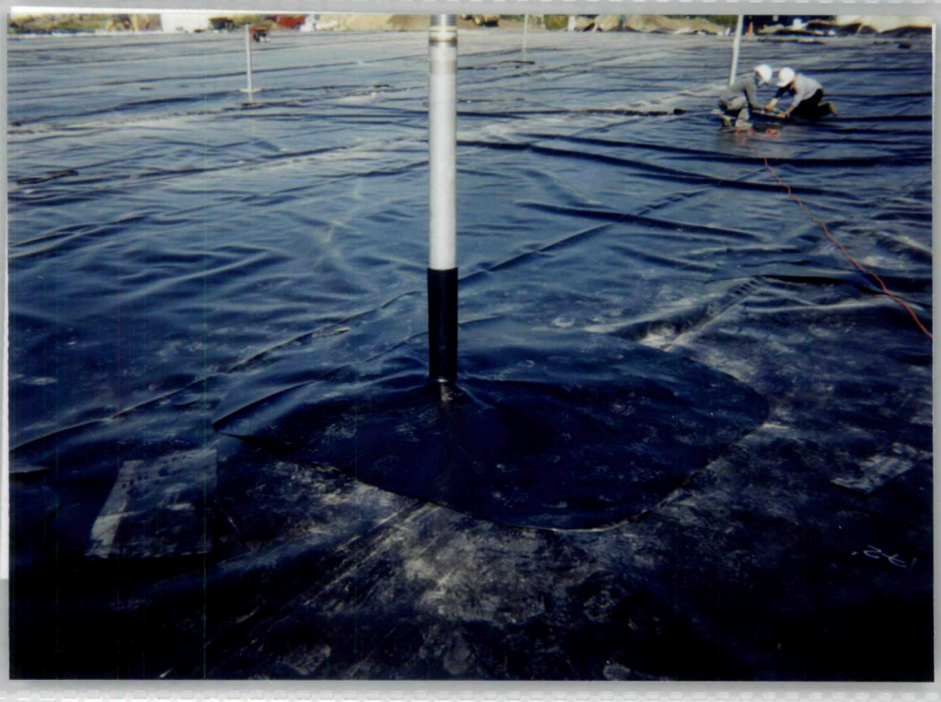
Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #21
Date: 09-05-02 Time: 14:20
Photographer: Larry Campbell
Description: Photo facing northwest showing the placement of mounded soil around the OFCA ISVE well SVE-30.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #22
Date: 09-05-02 Time: 14:55
Photographer: Larry Campbell
Description: Photo facing east showing Travis Klingforth of MWH determining the GPS coordinates of the barrier wall on the south side of the OFCA.



Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #23
Date: 09-05-02 Time: 15:15
Photographer: Larry Campbell
Description: Photo facing east showing MAL cutting the 4-inch-diameter hole to make the boot for the ISVE wells.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #24
Date: 09-05-02 Time: 15:15
Photographer: Larry Campbell
Description: Photo facing east showing MAL installing the boot patch around an ISVE well.



Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #25
Date: 09-05-02 Time: 15:20
Photographer: Larry Campbell
Description: Photo facing northeast showing the boot in place around an ISVE well. Boot will be extrusion welded to the FML tomorrow morning when FML is taut.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 26 Photo #26
Date: 09-05-02 Time: 15:30
Photographer: Larry Campbell
Description: Photo facing at ground showing the knife used by MAL to cut the liner. Note the notch that minimizes damaged to the underlying liner.

Site: American Chemical Services, Inc.
Proj. # 46526
Roll: 26 Photo #27
Date: 09-05-02 Time: 15:35
Photographer: Larry Campbell
Description: Photo showing MAL installing liner material on ISVE well for the boot installation.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #1
Date: 09-10-02 Time: 07:33
Photographer: Chad Gailey
Description: Photo facing east at MW11 of MWH removing the dedicated tubing out of the well in order to install the decontaminated pump.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #2
Date: 09-10-02 Time: 08:25
Photographer: Chad Gailey
Description: Photo facing northwest at MW11 of MWH collecting a 40-mL vial sample for VOC analysis.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #3
Date: 09-10-02 Time: 08:54
Photographer: Chad Gailey
Description: Photo facing west at the south end of the Kapica-Pazmey area of the anchor trench and FML.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #4
Date: 09-10-02 Time: 08:56
Photographer: Chad Gailey
Description: Photo facing north from the Kapica-Pazmey area showing ECI push root zone material out onto the FML.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #5
Date: 09-10-02 Time: 08:58
Photographer: Chad Gailey
Description: Photo facing southeast showing a seam and FML weld junction in the Kapica-Pazmey area.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #6
Date: 09-10-02 Time: 09:00
Photographer: Chad Gailey
Description: Photo facing southeast at OFCA ISVE well SVE-08 in Kapica-Pazmey area of the seaming and boot welding.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #7
Date: 09-10-02 Time: 09:02
Photographer: Chad Gailey
Description: Photo facing southwest showing the FML boot at an extraction well on the OFCA area.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #9
Date: 09-10-02 Time: 09:13
Photographer: Chad Gailey
Description: Photo facing northwest at OFCA ISVE well SVE-24 showing MAL preparing the joint from the FML to the boot for welding.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #10
Date: 09-10-02 Time: 09:14
Photographer: Chad Gailey
Description: Photo facing southwest at OFCA ISVE well SVE-29 and MAL welding the boot to the FML.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #11
Date: 09-10-02 Time: 11:18
Photographer: Chad Gailey
Description: Photo facing north at MW53 showing MWH collecting a groundwater sample for VOC analysis.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #12
Date: 09-10-02 Time: 12:02
Photographer: Chad Gailey
Description: Photo facing east inside the GWTP showing Chad Smith of MWH decontaminating the groundwater sampling equipment.

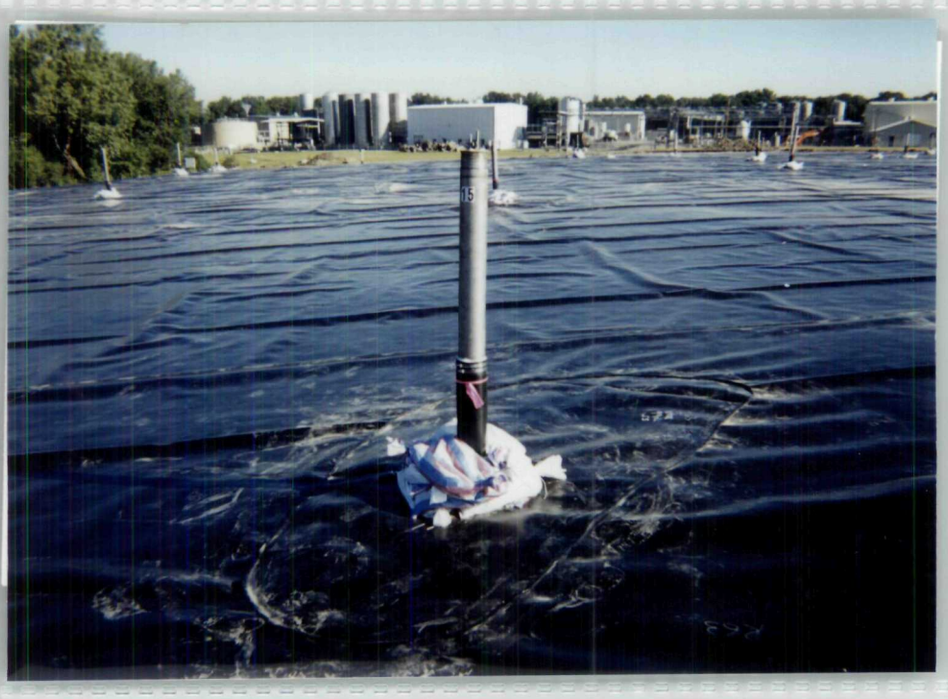
Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #13
Date: 09-10-02 Time: 13:24
Photographer: Chad Gailey
Description: Photo facing north showing ECI loading sand excavated from the pond onto the FML.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #14
Date: 09-10-02 Time: 13:57
Photographer: Chad Gailey
Description: Photo facing north at MW30 showing MWH labeling and tagging groundwater samples.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #15
Date: 09-10-02 Time: 14:00
Photographer: Chad Gailey
Description: Photo facing north at MW30 showing MWH removing the Grundflow pump.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #16
Date: 09-10-02 Time: 14:42
Photographer: Chad Gailey
Description: Photo facing northwest at MW42 of MWH sampling the well.

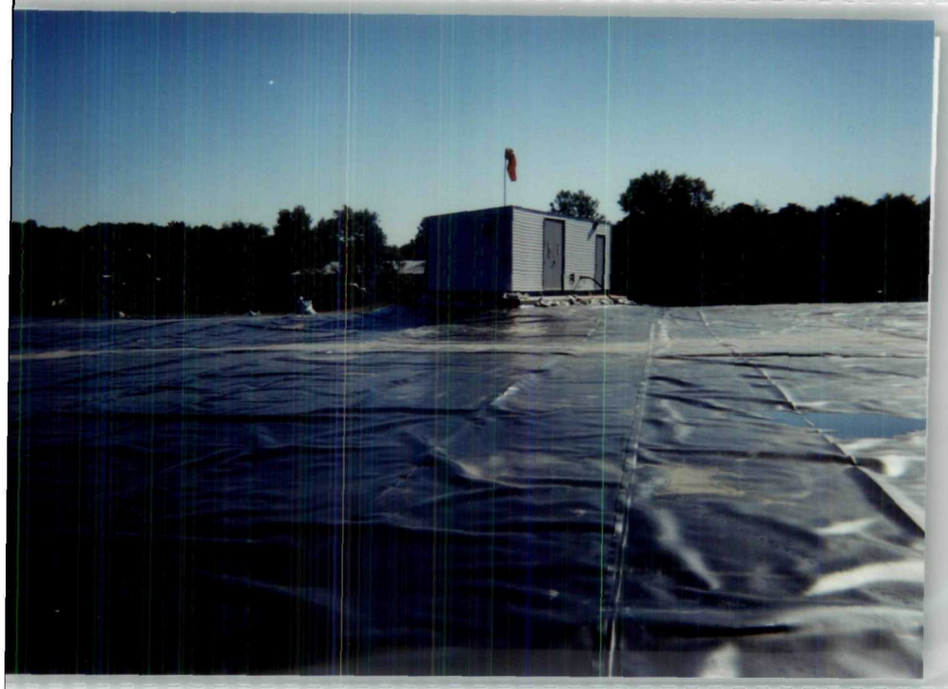
Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #17
Date: 09-12-02 Time: 09:15
Photographer: Larry Campbell
Description: Photo facing north showing the FML welded to the embedment strip on the concrete slab for the OFCA blower shed.



Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #18
Date: 09-10-02 Time: 09:20
Photographer: Larry Campbell
Description: Photo facing north showing the welded FML boot at OFCA ISVE well SVE-15.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #19
Date: 09-12-02 Time: 09:25
Photographer: Larry Campbell
Description: Photo facing north showing the FML boot installed around the manhole to extraction well EW-13A.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #20
Date: 09-10-02 Time: 09:30
Photographer: Larry Campbell
Description: Photo facing northwest showing the FML in the anchor trench on the west side of the OFCA, immediately south of P116. Note auto shock absorber in anchor trench.



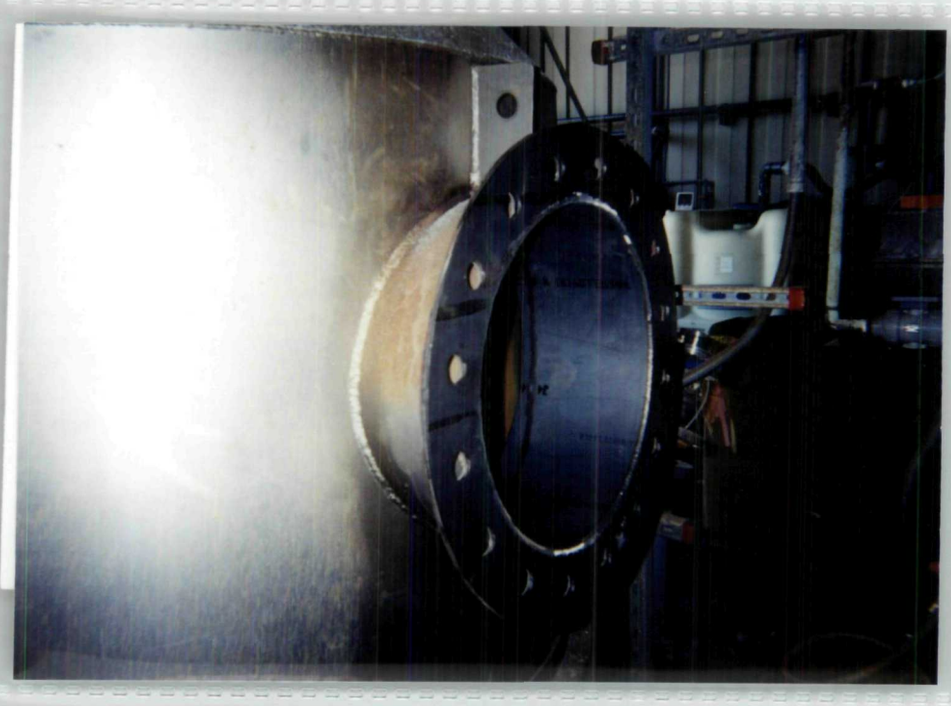
Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #21
Date: 09-12-02 Time: 09:32
Photographer: Larry Campbell
Description: Photo facing northeast showing the FML and OFCA ISVE blower shed.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #22
Date: 09-12-02 Time: 09:35
Photographer: Larry Campbell
Description: Photo facing west showing ECI spreading sand over the FML in the Kapica-Pazmey area.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #23
Date: 09-12-02 Time: 09:45
Photographer: Larry Campbell
Description: Photo facing south showing the backfilled east anchor trench for the OFCA engineered cover.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 27 Photo #24
Date: 09-12-02 Time: 13:35
Photographer: Larry Campbell
Description: Photo facing east showing Hard Hat Services excavating soil near the ACS buildings. Operators are voluntarily wearing half-face respirators.

Site: American Chemical Services, Inc.
Proj. # 46526
Roll: 27 Photo #25
Date: 09-12-02 Time: 14:05
Photographer: Larry Campbell
Description: Photo facing southwest in the ONCA showing the prior PCB excavated soil storage area. Concrete slab rubble removed for ONCA cover construction.



Site: American Chemical Services, Inc.
Proj. # 46526
Roll: 27 Photo #26
Date: 09-12-02 Time: 14:15
Photographer: Larry Campbell
Description: Photo facing northwest showing the Hastelloy sleeve insert welded into the air influent port of the scrubber.

Site: American Chemical Services, Inc.
Proj. # 46526
Roll: 27 Photo #27
Date: 09-12-02 Time: 14:45
Photographer: Larry Campbell
Description: Photo facing northwest showing MWH sampling residential well C for field parameters prior to collecting the sample for analytical parameters.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #1
Date: 09-12-02 Time: 15:00
Photographer: Larry Campbell
Description: Photo facing southwest showing ECI dumping root zone material along the east side of the OFCA engineered cover.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #2
Date: 09-12-02 Time: 15:20
Photographer: Larry Campbell
Description: Photo facing northwest showing the empty OFCA drainage pond.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #3
Date: 09-12-02 Time: 15:21
Photographer: Larry Campbell
Description: Photo facing southeast showing the northwest corner of the anchor trench for the OFCA engineered cover FML.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #4
Date: 09-12-02 Time: 15:40
Photographer: Larry Campbell
Description: Photo facing east showing preparation for the retesting of the root zone material density at test location 5.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #5
Date: 09-12-02 Time: 16:20
Photographer: Larry Campbell
Description: Photo facing east showing the perimeter cut for the ONCA interim cover near the railroad tracks and ACS buildings.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #6
Date: 09-17-02 Time: 09:10
Photographer: Leigh Peters
Description: Photo facing southwest showing HHSI excavating the perimeter trench for the ONCA interim cover near the railroad tracks.

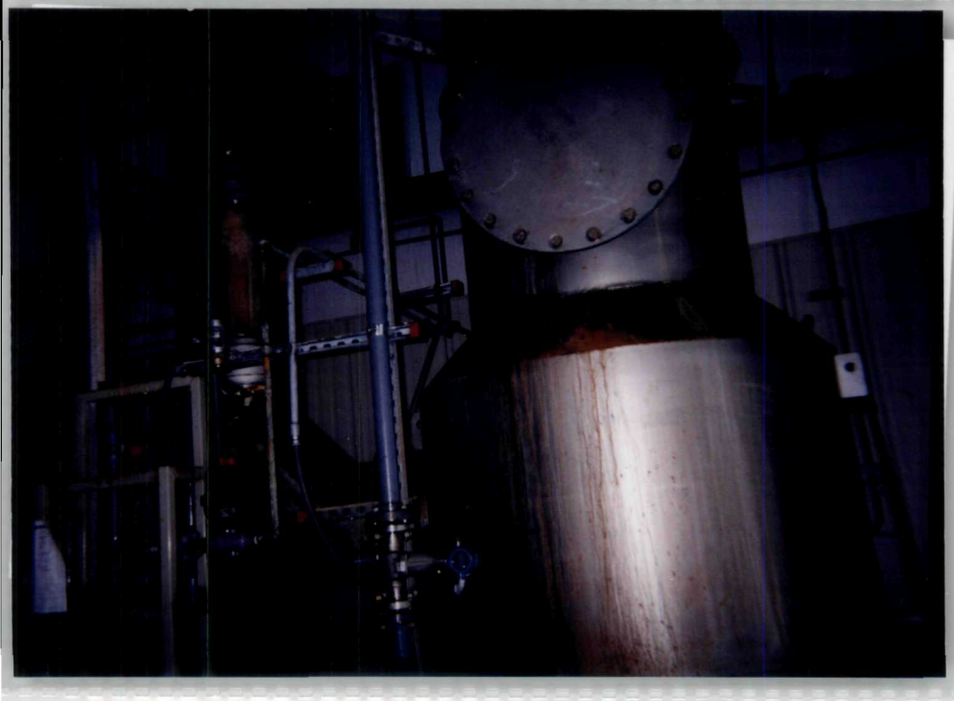
Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #7
Date: 09-12-02 Time: 09:35
Photographer: Leigh Peters
Description: Photo facing northwest showing the OFCA engineered cover.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #8
Date: 09-17-02 Time: 09:40
Photographer: Leigh Peters
Description: Photo showing the boot and sandbags placed around SVE-32.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #9
Date: 09-17-02 Time: 09:50
Photographer: Leigh Peters
Description: Photo facing east of ECI placing root zone material received from an off-site source.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #10
Date: 09-17-02 Time: 09:55
Photographer: Leigh Peters
Description: Photo facing south showing the northwest corner of the anchor trench and water ponding in the trench.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #11
Date: 09-17-02 Time: 11:00
Photographer: Leigh Peters
Description: Photo facing northwest showing HHSI excavating the remainder of the perimeter cut for the ONCA SBPA interim cover.



Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #12
Date: 09-17-02 Time: 12:45
Photographer: Leigh Peters
Description: Photo facing south of the replacement flanges and repaired ducting installed between the OFCA ISVE system thermal oxidizer and scrubber.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #13
Date: 09-17-02 Time: 13:45
Photographer: Leigh Peters
Description: Photo facing north of bent piezometer P116 that is leaning toward the east.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #14
Date: 09-17-02 Time: 15:30
Photographer: Leigh Peters
Description: Photo facing east showing MWH collecting water sample for metals analysis at residential well PW-Y.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #15A
Date: 09-19-02 Time: 07:20
Photographer: Leigh Peters
Description: Photo facing southwest of ECI placing root zone material on FML north of the blower shed.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #15B
Date: 09-19-02 Time: 08:25
Photographer: Leigh Peters
Description: Photo facing north at ground of void spaces in the ONCA SBPA subgrade near the ACS employee break room.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #16
Date: 09-19-02 Time: 08:25
Photographer: Leigh Peters
Description: Photo facing north at ground of void spaces in the ONCA SBPA subgrade near the ACS employee break room.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #17
Date: 09-19-02 Time: 08:25
Photographer: Leigh Peters
Description: Photo facing north of debris and voids in the ONCA SBPA subgrade.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #18
Date: 09-19-02 Time: 08:45
Photographer: Leigh Peters
Description: Photo facing northeast of the ACS storm drain piping and location where the ONCA SBPA interim cover construction will be revised.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #19
Date: 09-24-02 Time: 07:40
Photographer: Leigh Peters
Description: Photo facing south of damaged catchbasin piping located east of the ONCA SBPA ISVE system piping stickup.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #20
Date: 09-24-02 Time: 07:45
Photographer: Leigh Peters
Description: Photo facing southeast of HDPE piping to be connected for the ONCA SBPA ISVE system.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #21
Date: 09-24-02 Time: 08:05
Photographer: Leigh Peters
Description: Photo facing east showing HHSI excavating the trench for the ONCA SBPA ISVE system piping.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #22
Date: 09-24-02 Time: 09:30
Photographer: Leigh Peters
Description: Photo facing west showing K&S Testing performing a sand cone test on the OFCA engineered cover root zone material.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #23
Date: 09-24-02 Time: 09:50
Photographer: Leigh Peters
Description: Photo facing north showing the alignment of OFCA piezometer P116 after the root zone material for the OFCA engineered cover was placed around it.

Site: American Chemical Services, Inc.
Proj. #: 46526
Roll: 28 Photo #24
Date: 09-24-02 Time: 10:00
Photographer: Leigh Peters
Description: Photo facing southeast showing the northwest portion of the OFCA engineered cover FML and ECI placing the root zone material.

Site: American Chemical Services, Inc.
Proj. # 46526
Roll: 28 Photo #25
Date: 09-24-02 Time: 10:35
Photographer: Leigh Peters
Description: Photo facing southeast of HHSI fusion welding a 2-inch-diameter HDPE water conveyance piping for the ONCA SBPA ISVE system.

Site: American Chemical Services, Inc.
Proj. # 46526
Roll: 28 Photo #26
Date: 09-24-02 Time: 14:00
Photographer: Leigh Peters
Description: Photo facing southeast showing HHSI place sand bedding into the trench for the ONCA SBPA ISVE system piping.